FUNAI

# SERVICE MANUAL

**Main Section**
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded views
- Parts List

**When servicing the deck mechanism, refer to MK14 Deck Mechanism Section.**

**Deck Mechanism Part No.: N25E1FL**

## VIDEO CASSETTE RECORDER

## D50Y-100M

VHS
PAL

FUNAI

# MAIN SECTION

# VIDEO CASSETTE RECORDER

# D50Y-100M

**Sec. 1: Main Section**

- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
- **Exploded Views**
- **Parts List**

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# SPECIFICATIONS

| Description | Unit | Minimum | Nominal | Maximum | Remark |
|---|---|---|---|---|---|
| **1. Video** | | | | | |
| 1-1. Video Output (PB) | Vp-p | 0.8 | 1.0 | 1.2 | FL6A |
| 1-2. Video Output (R/P) | Vp-p | 0.8 | 1.0 | 1.2 | |
| 1-3. Video S/N Y (R/P) | dB | 40 | 45 | | SP Mode, W/O Burst |
| 1-4. Video Color S/N AM (R/P) | dB | 37 | 41 | | SP Mode |
| 1-5. Video Color S/N PM (R/P) | dB | 30 | 36 | | SP Mode |
| 1-6. Resolution (PB) | Line | 230 | 245 | | SP Mode |
| **2. Servo** | | | | | |
| 2-1. Jitter Low | μsec | | 0.07 | 0.12 | SP Mode |
| 2-2. Wow & Flutter | % | | 0.3 | 0.5 | SP Mode |
| **3. Normal Audio** | | | | | |
| 3-1. Output (PB) | dBV | -9 | -6 | -3 | SP Mode |
| 3-2. Output (R/P) | dBV | -9 | -6 | -1.5 | SP Mode |
| 3-3. S/N (R/P) | dB | 36 | 41 | | SP Mode |
| 3-4. Distortion (R/P) | % | | 1.0 | 4.0 | SP Mode |
| 3-5. Freq. resp (R/P) at 200Hz | dB | -7 | -4 | | SP Mode |
| (-20dB ref. 1kHz) at 6kHz | dB | -10 | -4 | | SP Mode |
| **4. Tuner** | | | | | |
| 4-1. Video output | Vp-p | 0.8 | 1.0 | 1.2 | E-E Mode |
| 4-2. Video S/N | dB | 39 | 42 | | E-E Mode |
| 4-3. Audio output | dB | -10 | -6 | -2 | E-E Mode |
| 4-4. Audio S/N | dB | 40 | 46 | | E-E Mode |
| **5. Hi-Fi Audio** | | | | | |
| 5-1. Output | dBV | -12 | -8 | -4 | SP Mode |
| 5-2. Dynamic Range | dB | 70 | 85 | | SP Mode |
| 5-3. Freq. resp (6dB B.W) | Hz | | 20 ~ 20K | | SP Mode |

**Note**: Nominal specs represent the design specs. All units should be able to approximate these – some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; In no case should a unit fail to meet limit specs.

# IMPORTANT SAFETY PRECAUTIONS

## Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced**.**

## Precautions during Servicing

**A.** Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

**B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements. Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

**C.** Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

**D.** Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation tape
2) PVC tubing
3) Spacers
4) Insulators for transistors

**E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

**F.** Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

**G.** Check that replaced wires do not contact sharp edges or pointed parts.

**H.** When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

**I.** Also check areas surrounding repaired locations.

**J.** Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

**K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

**L.** Be sure to confirm the FAN motor has completely stopped when disconnecting the AC cord for termination processing is activated during inner P-on immediately after turning Power off.

**M.** When reassembling, be sure to use the original screws or specified screws listed in the parts list.

# Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

## 1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

**Table 1 : Ratings for selected area**

| AC Line Voltage | Clearance Distance (d), (d') |
|---|---|
| 230 V | ≥ 3.2 mm(d)<br>≥ 6.0 mm(d') |

**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.

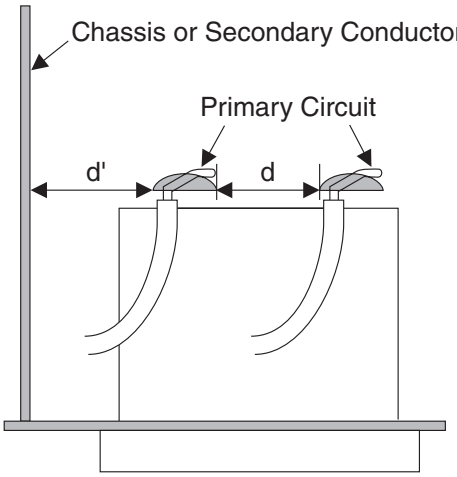



**Fig. 1**

## 2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

**Measuring Method (Power ON) :**

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

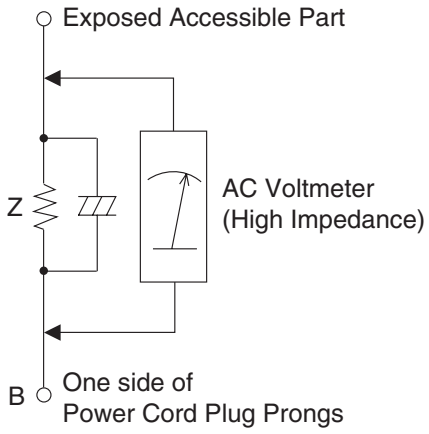



**Fig. 2**

**Table 2: Leakage current ratings for selected areas**

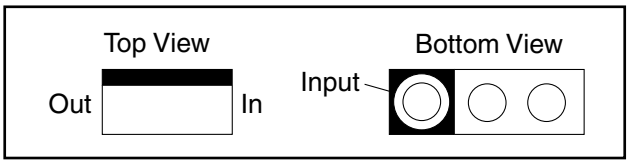
| AC Line Voltage | Load Z | Leakage Current (i) | One side of power cord plug prongs (B) to: |
|---|---|---|---|
| 230 V | 2kΩ RES. Connected in parallel | i≤0.7mA AC Peak<br>i≤2mA DC | RF or Antenna terminals |
| | 50kΩ RES. Connected in parallel | i≤0.7mA AC Peak<br>i≤2mA DC | A/V Input, Output |

**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.

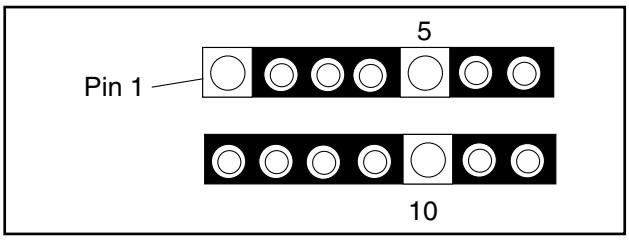
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

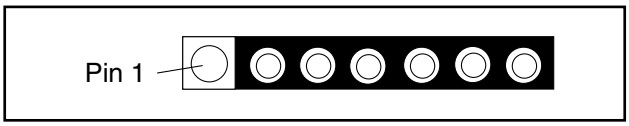
1. The output pin of the 3 pin Regulator ICs is indicated as shown.




2. For other ICs, pin 1 and every fifth pin are indicated as shown.




3. The 1st pin of every male connector is indicated as shown.




## Pb (Lead) Free Solder

**When soldering, be sure to use the Pb free solder.**

## How to Remove / Install Flat Pack-IC

### 1. Removal

**With Hot-Air Flat Pack-IC Desoldering Machine:**

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

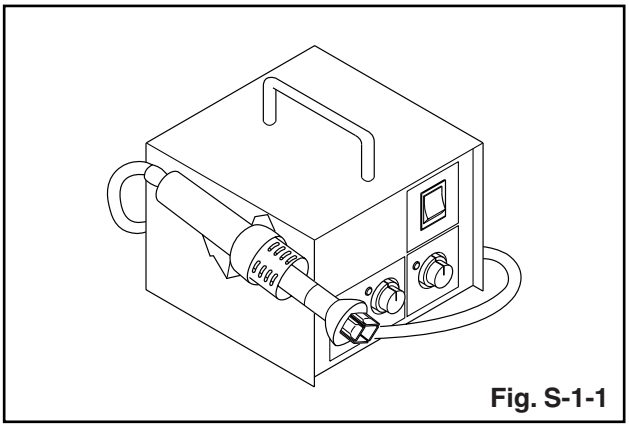


**Fig. S-1-1**

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**CAUTION:**

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

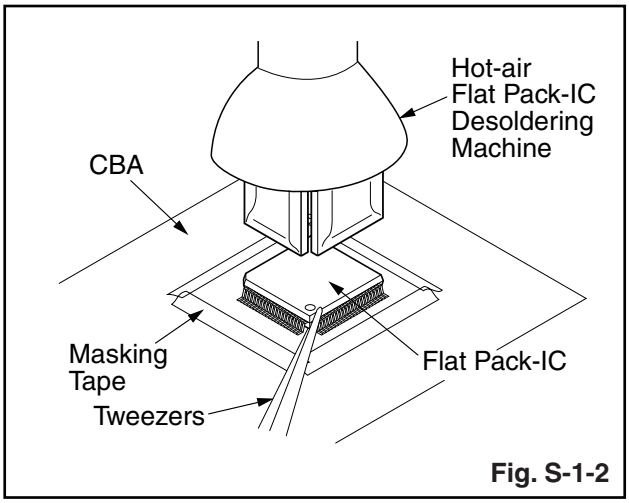



**Fig. S-1-2**

**With Soldering Iron:**

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

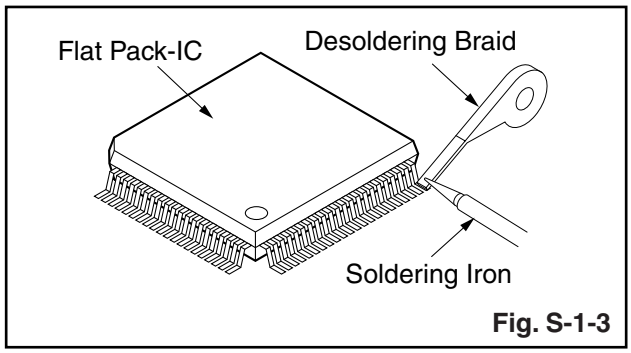



**Fig. S-1-3**

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

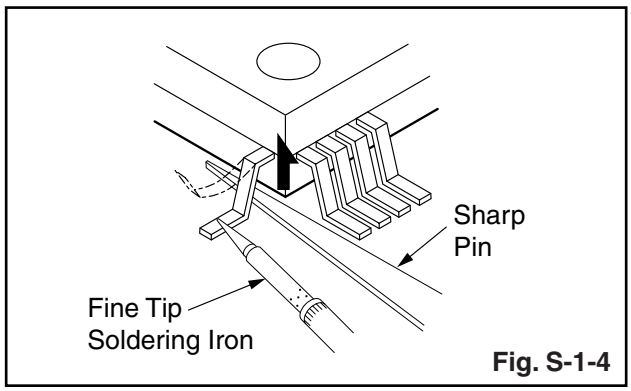



**Fig. S-1-4**

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**With Iron Wire:**

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**Note:** When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

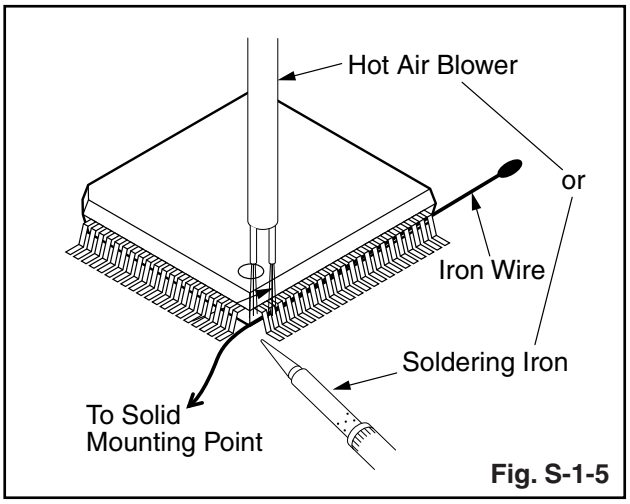


**Fig. S-1-5**

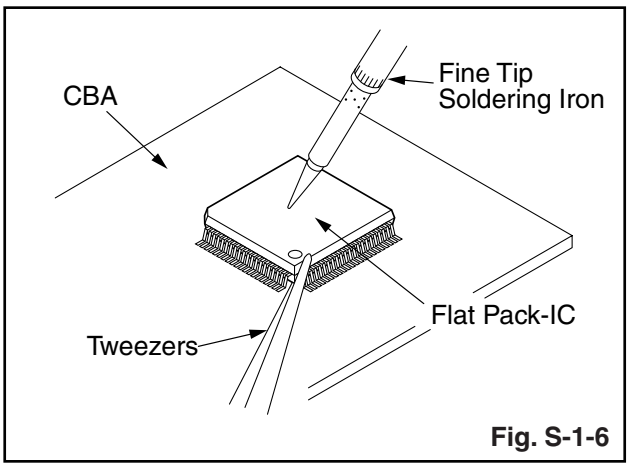


**Fig. S-1-6**

## 2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

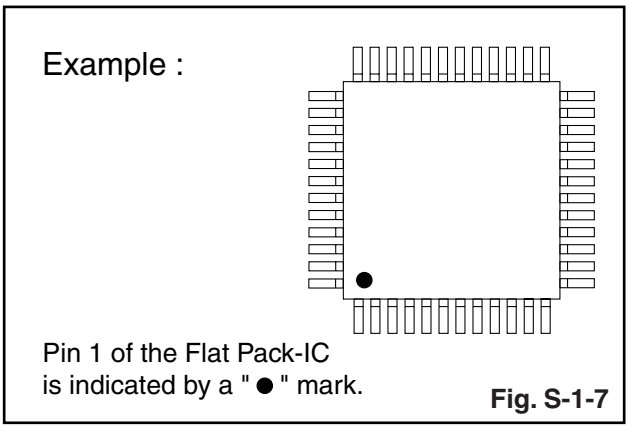


**Fig. S-1-7**

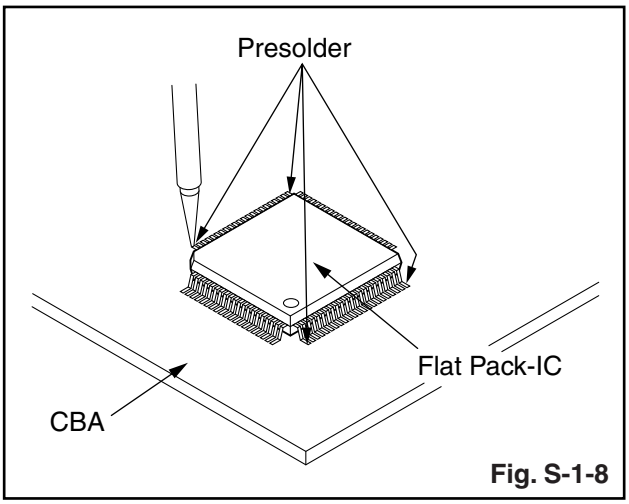


**Fig. S-1-8**

# Instructions for Handling Semi-conductors

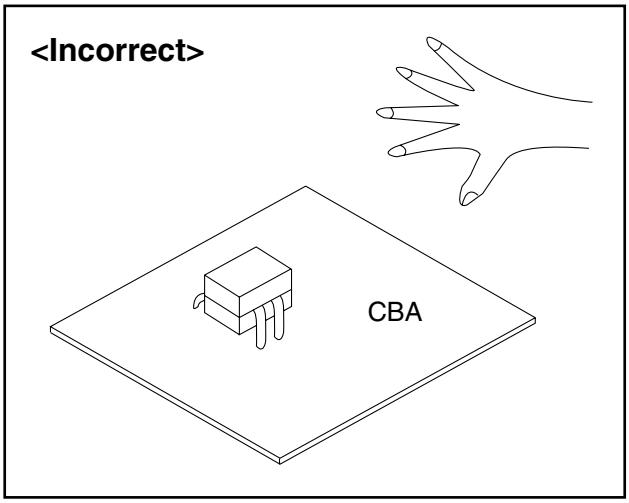
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

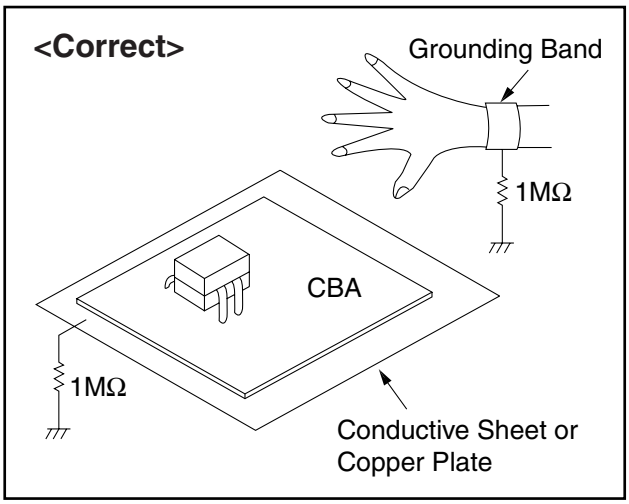
## 1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

## 2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



# PREPARATION FOR SERVICING

## How to Enter the Service Mode

About Optical Sensors

**Caution:**

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

**What to do for preparation**

Insert a tape into the Deck Mechanism Assembly and press the [PLAY] button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, connect TP507 (S-INH) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

**Note:** Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

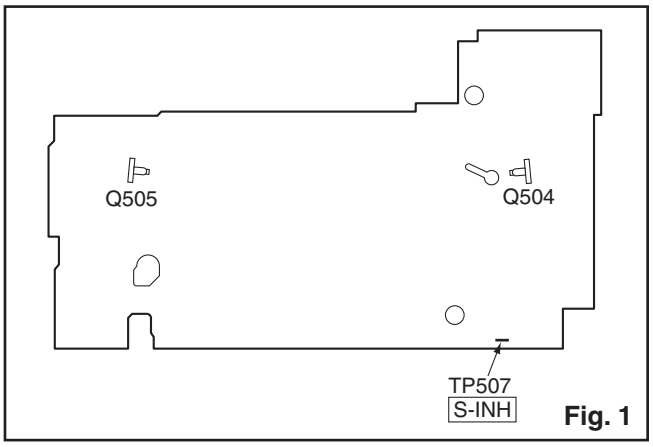
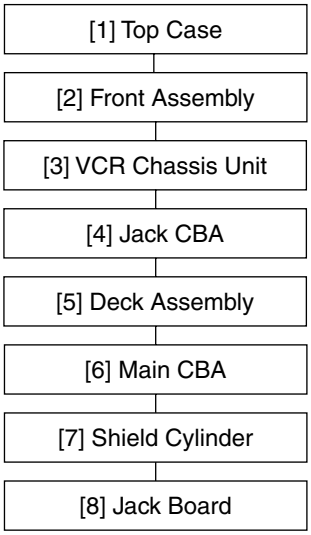


**Fig. 1**

# CABINET DISASSEMBLY INSTRUCTIONS

## 1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to items to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.




## 2. Disassembly Method

| ID/ Loc. No. | Part | Fig. No. | Removal | Note |
|---|---|---|---|---|
| [1] | Top Case | D1 | 7(S-1) | --- |
| [2] | Front Assembly | D2 | 3(L-1), 4(L-2) | --- |
| [3] | VCR Chassis Unit | D3 | 5(S-2), 2(S-3), (S-4) | 1 |
| [4] | Jack CBA | D4 | Desolder, (S-5) | --- |
| [5] | Deck Assembly | D5 D6 | (S-6), (S-7), Desolder | 2,3 |
| [6] | Main CBA | D5 D6 | ---------- | --- |
| [7] | Shield Cylinder | D5 | (S-8) | --- |
| [8] | Jack Board | D5 | ---------- | --- |
| ↓ (1) | ↓ (2) | ↓ (3) | ↓ (4) | ↓ (5) |

**Note:**

(1) Identification (location) No. of parts in the figures

(2) Name of the part

(3) Figure Number for reference

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw, CN = Connector
e.g. 2(S-2) = two Screws of (S-2),
2(L-2) = two Locking Tabs of (L-2)

(5) Refer to “Reference Notes.”

### Reference Notes

CAUTION: Locking Tabs (L-1) and (L-2) are fragile. Be careful not to break them.

1. Remove five Screws (S-2), two Screws (S-3) and Screw (S-4). Then, slowly lift the VCR Chassis Unit (Deck Assembly, Jack CBA and Main CBA) up.
2. When reassembling, solder wire jumpers as shown in Fig. D5.
3. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D6. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D6.

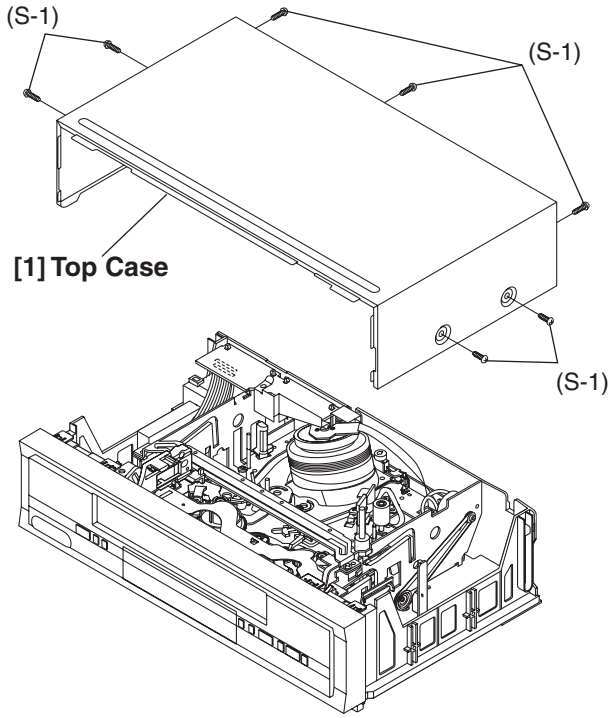



**Fig. D1**

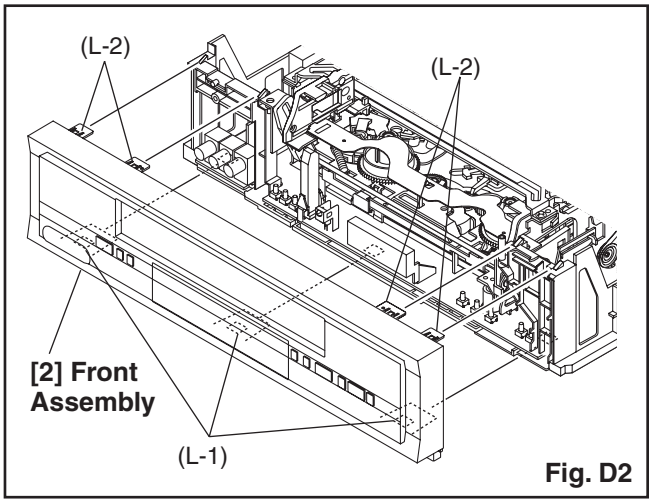


Fig. D2

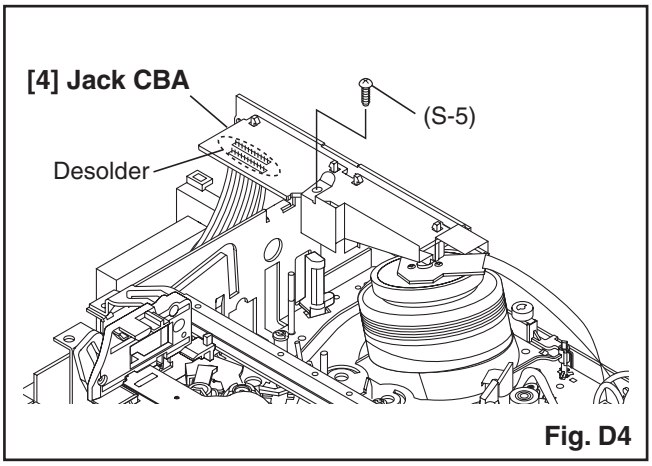


Fig. D4

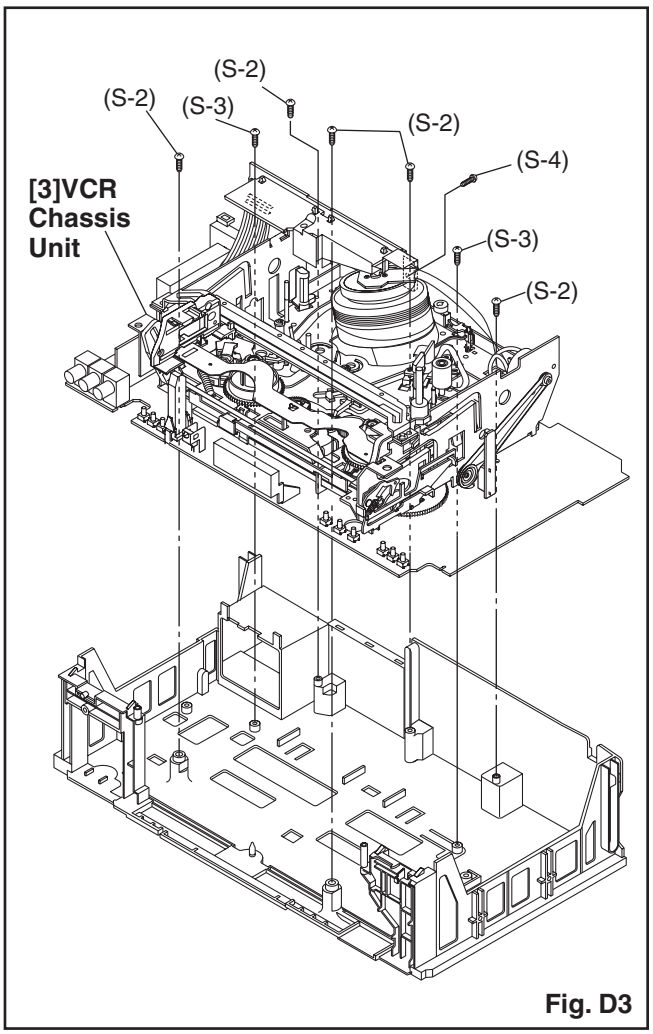


Fig. D3

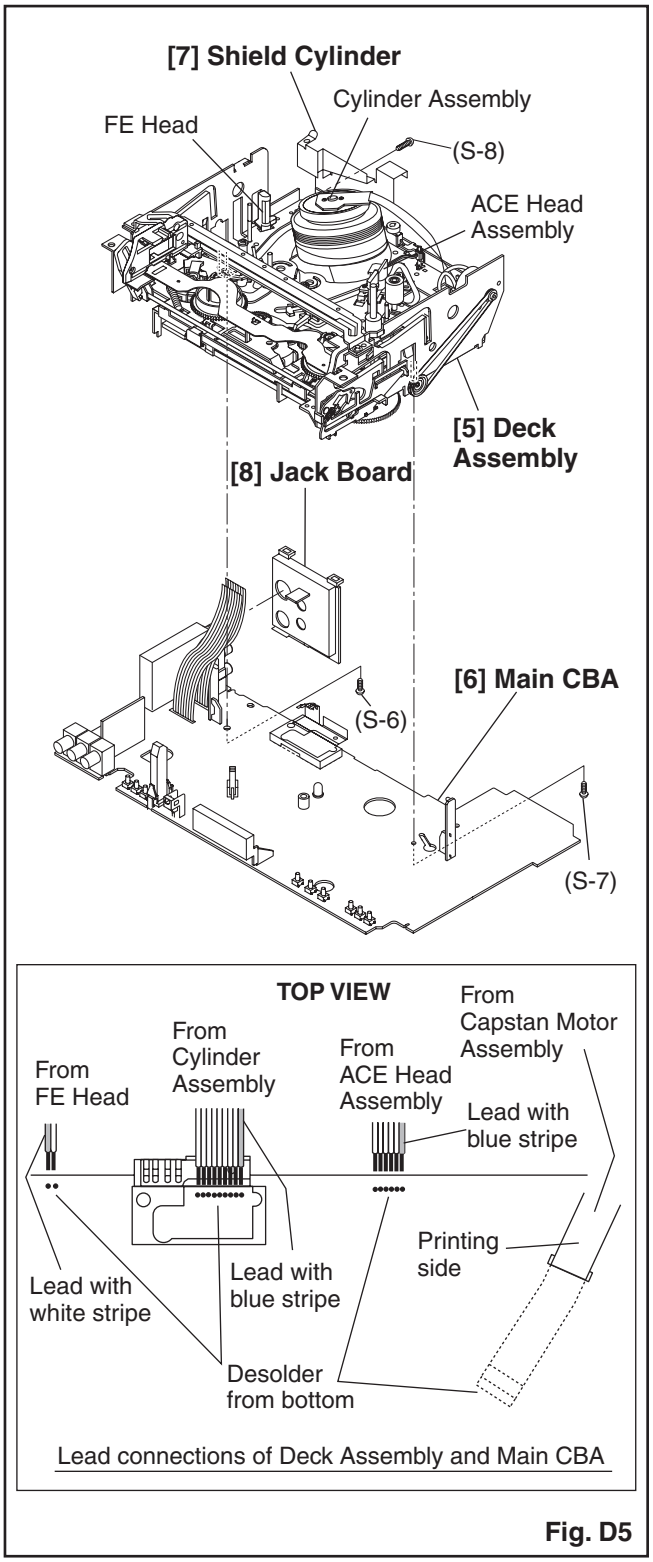



Fig. D5

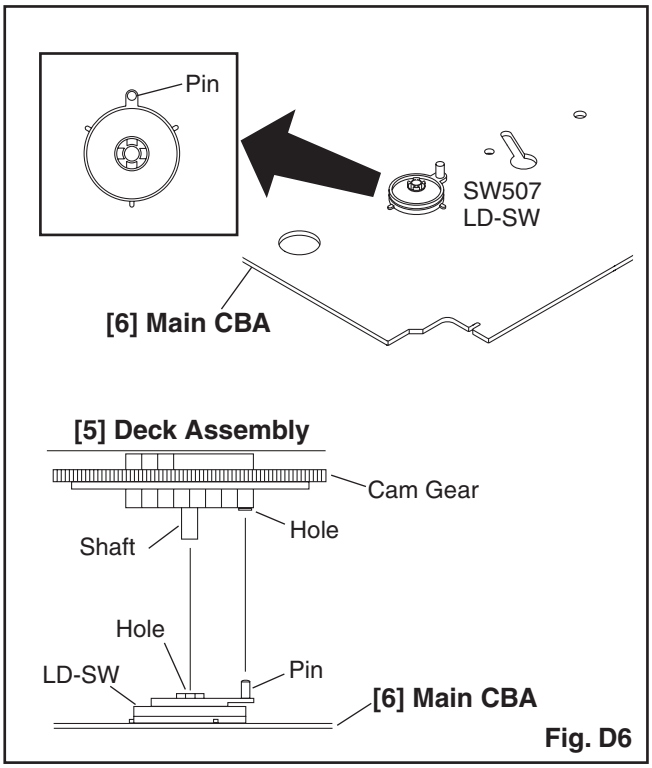



Fig. D6

**Note:** When removing FFC of Capstan Motor from Main CBA, be sure to replace it with a new FFC.
(Don't solder FFC which was once removed again.)

# ELECTRICAL ADJUSTMENT INSTRUCTIONS

**Note:**

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either [CHANNEL ▼] or [CHANNEL ▲] button on the remote control unit first, then the [PLAY] button (Front Panel only).

## Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div.,
   F-Range: DC~AC-20MHz
2. Alignment Tape (FL6A)

## Head Switching Position Adjustment

**Purpose:**

To determine the Head Switching position during playback.

**Symptom of Misadjustment:**

May cause Head Switching noise or vertical jitter in the picture.

| Test point | Adj.Point | Mode | Input |
|---|---|---|---|
| J23(V-OUT)<br>TP502(RF-SW)<br>GND | VR501<br>(Switching Point)<br>(MAIN CBA) | PLAY<br>(SP) | ----- |
| **Tape** | **Measurement Equipment** | **Spec.** | |
| FL6A | Oscilloscope | 6.5H±1H<br>(416μs±64μs) | |

**Connections of Measurement Equipment**

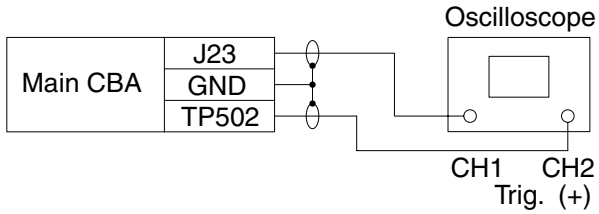
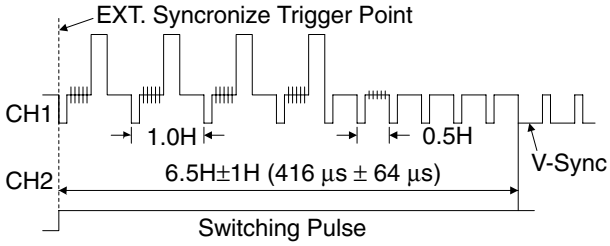



**Figure 1**




**Reference Notes:**

Playback the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H±1H (416μs±64μs) delayed position from the rising edge of the CH2 head switching pulse waveform.

# HOW TO INITIALIZE THE VCR

To put the program back at the factory-default, initialize the VCR as the following procedure.

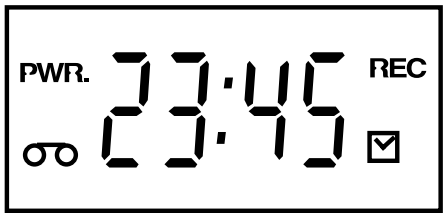
1. Make sure that no timer programming is set. If not, reset all timer programming.
2. Turn the power off.
3. Press the [STOP/EJECT] button and [CHANNEL ▲] button on the unit simultaneously for at least 2 seconds.
   Upon completion of the initialization of the EEPROM, "☑" mark on the display turns on a light.
4. Release the [STOP/EJECT] button and [CHANNEL ▲] button to complete this mode.

# FUNCTION INDICATOR SYMBOLS

**Note:**

The following symbols will appear on the indicator panel to indicate the current mode or operation of the VCR. On-screen modes will also be momentarily displayed on the tv screen when you press the operation buttons.

## Display panel




| MODE | INDICATOR ACTIVE | |
|---|---|---|
| POWER ON | " PWR." | ON |
| CASSETTE "IN"<br>CASSETTE "OUT" | " (π) "<br>" (π) " | ON<br>OFF |
| CLOCK | " 88:88 " | ON |
| REC | " REC " | ON |
| REC PAUSE | " REC " | Blinks at 0.8Hz interval |
| T-REC,OTR | " " | ON<br>(T-REC OFF,T-REC incomplete<br>Blinks at 0.8Hz interval) |
| S-INH condition | All modes | Blinks at 0.8Hz interval |
| All lighting mode | All characters | ON |

## TV screen

**Note:**

OSD for mechanical error will be displayed for 5 sec. after the mechanical error occurs.

| Cause | Indicator Active |
|---|---|
| When reel or capstan mechanism is not functioning correctly | "⏏ R" is displayed on a TV screen. (Refer to Fig. 1.) |
| When tape loading mechanism is not functioning correctly | "⏏ T" is displayed on a TV screen. (Refer to Fig. 2.) |
| When cassette loading mechanism is not functioning correctly | "⏏ C" is displayed on a TV screen. (Refer to Fig. 3.) |
| When the drum is not working properly | "⏏ D" is displayed on a TV screen. (Refer to Fig. 4.) |
| P-ON Power safety detection | "⏏ P" is displayed on a TV screen. (Refer to Fig. 5.) |

When reel or capstan mechanism is not functioning correctly

**Fig. 1**

When tape loading mechanism is not functioning correctly

**Fig. 2**

When cassette loading mechanism is not functioning correctly

**Fig. 3**

When the drum is not working properly

**Fig. 4**

P-ON Power safety detection

**Fig. 5**

# TROUBLESHOOTING

**FLOW CHART NO.1**

The power cannot be turned on.

↓

Is the fuse normal? — No → See FLOW CHART No.2 <The fuse blows out.>

↓ Yes

Is normal state restored when once unplugged power cord is plugged again after several seconds. — No → Check for lead or short-circuiting of primary circuit component and service it if defective. (IC002, Q001, Q002, T001, D001, D002, D003, D004, R010)

↓ Yes

Is the AL+5V(2) line voltage normal? — No → (same as above)

↓ Yes

Check each rectifying circuit of secondary circuit and service it if defective.

**FLOW CHART NO.2**

The fuse blows out.

↓

Check the presence that the primary component is leaking or shorted and service it if defective.

Check the presence that the rectifying diode or circuit is shorted in each rectifying circuit of secondary side and service it if defective.

↓

After servicing, replace the fuse.

**FLOW CHART NO.3**

When the output voltage fluctuates.

↓

Does the secondary side photo coupler circuit operate normally? — No → Check the circuit and service it if defective. (IC1001, D022)

↓ Yes

Check the circuit and service it if defective. (IC001, D006, D008, D009, D018, D021)

**FLOW CHART NO.4**

When buzz sound can be heard in the vicinity of power circuit.

↓

Check if there is short circuit on the rectifying diode and the circuit in each rectifying circuit of secondary side, and service it if defective. (D011, D012, D013, D014, Q051, Q053, Q054, Q055, Q057, Q062)

**FLOW CHART NO.5**

P-ON+15V is not outputted.

↓

Is 16V voltage supplied to the collector of Q051? — No → Check D011, C012 and their periphery, and service it if defective.

↓ Yes

Is the "H" pulse (approximately 16V) inputted to the base of Q051? — No → Check Q052, Q061, D058, D062, P-ON-H line and their periphery, and service it if defective.

↓ Yes

Replace Q051.

**FLOW CHART NO.6**

AL+12V(1, 2) is not outputted.

↓

Is the supply voltage 14V fed to the cathode of D013?

No → Check D013, C017 and their periphery, and service it if defective.

↓ Yes

Is the "H" pulse (approximately 14V) inputted to the base of Q062?

No → Check Q052, D063, P-ON-H line and their periphery, and service it if defective.

↓ Yes

Replace Q062.

**FLOW CHART NO.7**

AL+9V is not outputted.

↓

Is 14V voltage supplied to the collector of Q053?

No → Refer to "FLOW CHART NO.6"<AL+12V(1,2) is not outputted>.

↓ Yes

Is the "H" pulse (approximately 10V) inputted to the base of Q053?

No → Check D057, R062 and their periphery, and service it if defective.

↓ Yes

Replace Q053.

**FLOW CHART NO.8**

AL+5V(1, 2) is not outputted.

↓

Is the supply voltage 5V fed to the cathode of D014?

No → Check D014, C020, C021, L010, R070 and their periphery, and service it if defective.

↓ Yes

Check for short-circuiting or leak on the load circuit, and service it if defective.

**FLOW CHART NO.9**

P-ON+5V is not outputted.

↓

Is 5V voltage supplied to collector of Q054?

No → Refer to "FLOW CHART NO.8"<AL+5V(1, 2) is not outputted>.

↓ Yes

Is the "H" pulse (approximately 6V) inputted to the base of Q054?

No → Refer to "FLOW CHART NO.5"<P-ON+15V is not outputted>.

↓ Yes

Check Q054 and their periphery, and service it if defective.

**FLOW CHART NO.10**

TIMER+5V is not outputted.

↓

Is 5V voltage supplied to emitter of Q055?

No → Refer to "FLOW CHART NO.8"<AL+5V(1, 2) is not outputted>.

↓ Yes

Is the "H" pulse (approximately 5V) inputted to the base of Q055?

No → Check Q056, Q059, D056 and their periphery, and service it if defective.

↓ Yes

Replace Q055.

**FLOW CHART NO.11**

The key operation is not functioning.

↓

Are the contact point and the installation state of the key switches normal?

No → Re-install the key switches correctly or replace the key switches if defective.

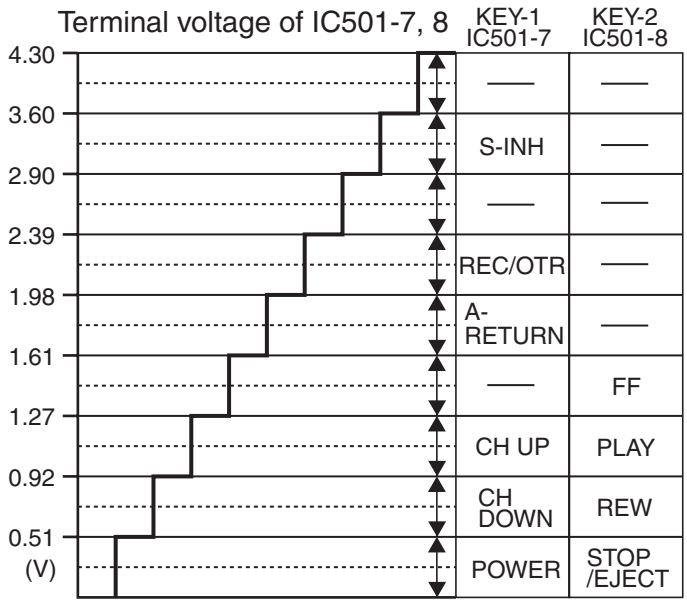
↓ Yes

Is the control voltage normally inputted into Pin(7, 8) of IC501?

No → Check the key switches and their periphery, and service it if defective.

↓ Yes

Check IC501 and their periphery, and service it if defective.




**FLOW CHART NO.12**

No VCR operation is possible from the remote control. (Operation is possible from the unit.)

↓

Is 5V voltage supplied to the Pin(3) terminal of the RS501 (remote control receiver)?

No → Check AL+5V(1) line and service it if defective.

↓ Yes

Is the "L" pulse sent out from Pin(1) terminal of the RS501 (remote control receiver) when the remote control is activated?

No → Replace RS501(remote control receiver) or the remote control unit.

↓ Yes

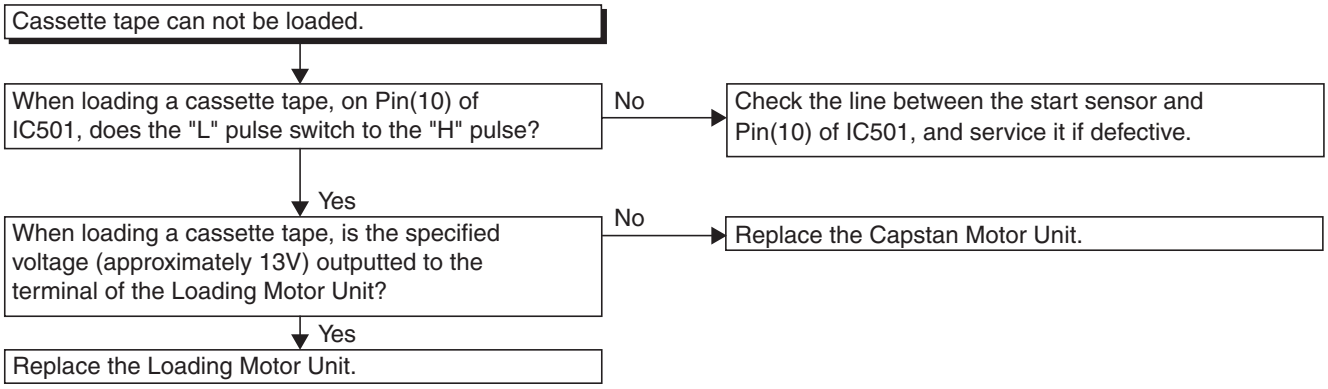
Is the "L" pulse signal supplied to Pin(14) of IC501?

No → Check the line between the RS501 (remote control receiver) and Pin(14) of IC501, and service it if defective.

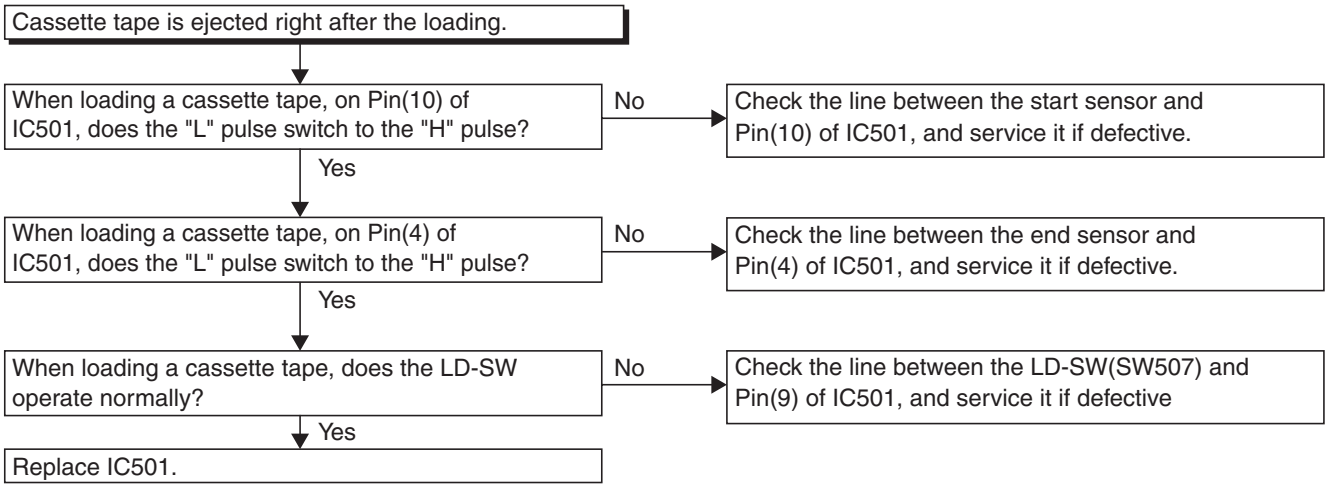
↓ Yes

Check IC501 and their periphery, and service it if defective.

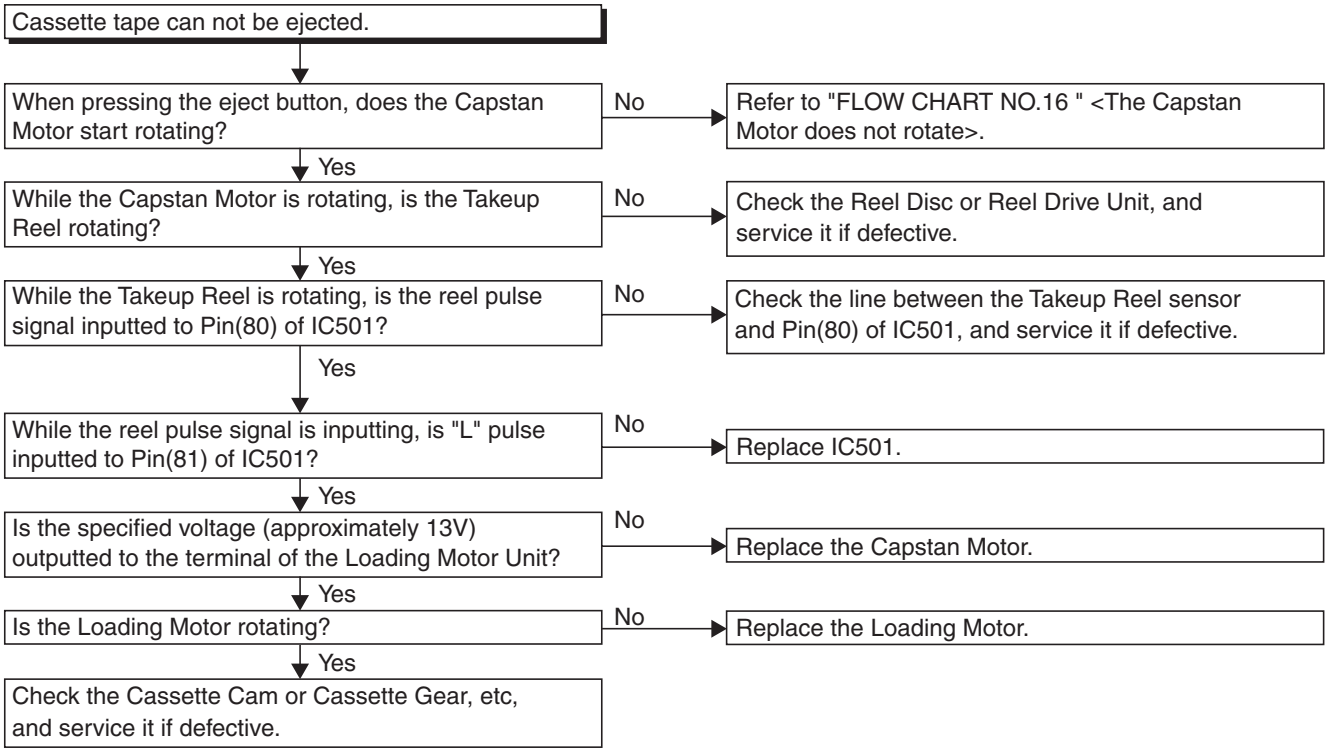
**FLOW CHART NO.13**


Cassette tape can not be loaded.
When loading a cassette tape, on Pin(10) of IC501, does the "L" pulse switch to the "H" pulse?
No
Check the line between the start sensor and Pin(10) of IC501, and service it if defective.
Yes
When loading a cassette tape, is the specified voltage (approximately 13V) outputted to the terminal of the Loading Motor Unit?
No
Replace the Capstan Motor Unit.
Yes
Replace the Loading Motor Unit.

**FLOW CHART NO.14**


Cassette tape is ejected right after the loading.
When loading a cassette tape, on Pin(10) of IC501, does the "L" pulse switch to the "H" pulse?
No
Check the line between the start sensor and Pin(10) of IC501, and service it if defective.
Yes
When loading a cassette tape, on Pin(4) of IC501, does the "L" pulse switch to the "H" pulse?
No
Check the line between the end sensor and Pin(4) of IC501, and service it if defective.
Yes
When loading a cassette tape, does the LD-SW operate normally?
No
Check the line between the LD-SW(SW507) and Pin(9) of IC501, and service it if defective
Yes
Replace IC501.

**FLOW CHART NO.15**


Cassette tape can not be ejected.
When pressing the eject button, does the Capstan Motor start rotating?
No
Refer to "FLOW CHART NO.16 " <The Capstan Motor does not rotate>.
Yes
While the Capstan Motor is rotating, is the Takeup Reel rotating?
No
Check the Reel Disc or Reel Drive Unit, and service it if defective.
Yes
While the Takeup Reel is rotating, is the reel pulse signal inputted to Pin(80) of IC501?
No
Check the line between the Takeup Reel sensor and Pin(80) of IC501, and service it if defective.
Yes
While the reel pulse signal is inputting, is "L" pulse inputted to Pin(81) of IC501?
No
Replace IC501.
Yes
Is the specified voltage (approximately 13V) outputted to the terminal of the Loading Motor Unit?
No
Replace the Capstan Motor.
Yes
Is the Loading Motor rotating?
No
Replace the Loading Motor.
Yes
Check the Cassette Cam or Cassette Gear, etc, and service it if defective.

**FLOW CHART NO.16**

Capstan Motor does not rotate.

Is 5V voltage supplied to Pin(2) of CN502?
- No → Check the P-ON+5V line and service it if defective.
- Yes ↓

Is over approximately 2.6V voltage supplied to Pin(5) of CN502?
- No → Check the line between Pin(5) of CN502 and Pin(76) of IC501, and service it if defective.
- Yes ↓

Is 12V voltage supplied to Pin(1) of CN502?
- No → Check the AL+12V/+20.5V line and service it if defective.
- Yes ↓

Replace the Capstan Motor.

**FLOW CHART NO.17**

Drum Motor does not rotate.

Is 5V voltage supplied to Pin(2) of CN502?
- No → Check the P-ON+5V line and service it if defective.
- Yes ↓

Is over approximately 2.6V voltage supplied to Pin(8) of CN502?
- No → Check the line between Pin(8) of CN502 and Pin(77) of IC501, and service it if defective.
- Yes ↓

Is 12V voltage supplied at Pin(11) of CN502?
- No → Check the AL+12V(2) line and service it if defective.
- Yes ↓

Replace the Capstan Motor or the Cylinder Assembly.

**FLOW CHART NO.18**

Drum Motor rotates only for a few seconds.

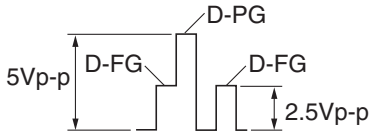
Is the D-PFG signal inputted to Pin(90) of IC501?
- No → Replace the Capstan Motor or the Cylinder Assembly.
- Yes ↓

Is the RF-SW signal outputted to Pin(18) of IC501?
- No → Replace IC501.
- Yes ↓

Is 12V voltage supplied Pin(11) of CN502?
- No → Check the AL+12V(2) line and service it if defective.
- Yes ↓

Replace the Capstan Motor or the Cylinder Assembly.

**FLOW CHART NO.19**



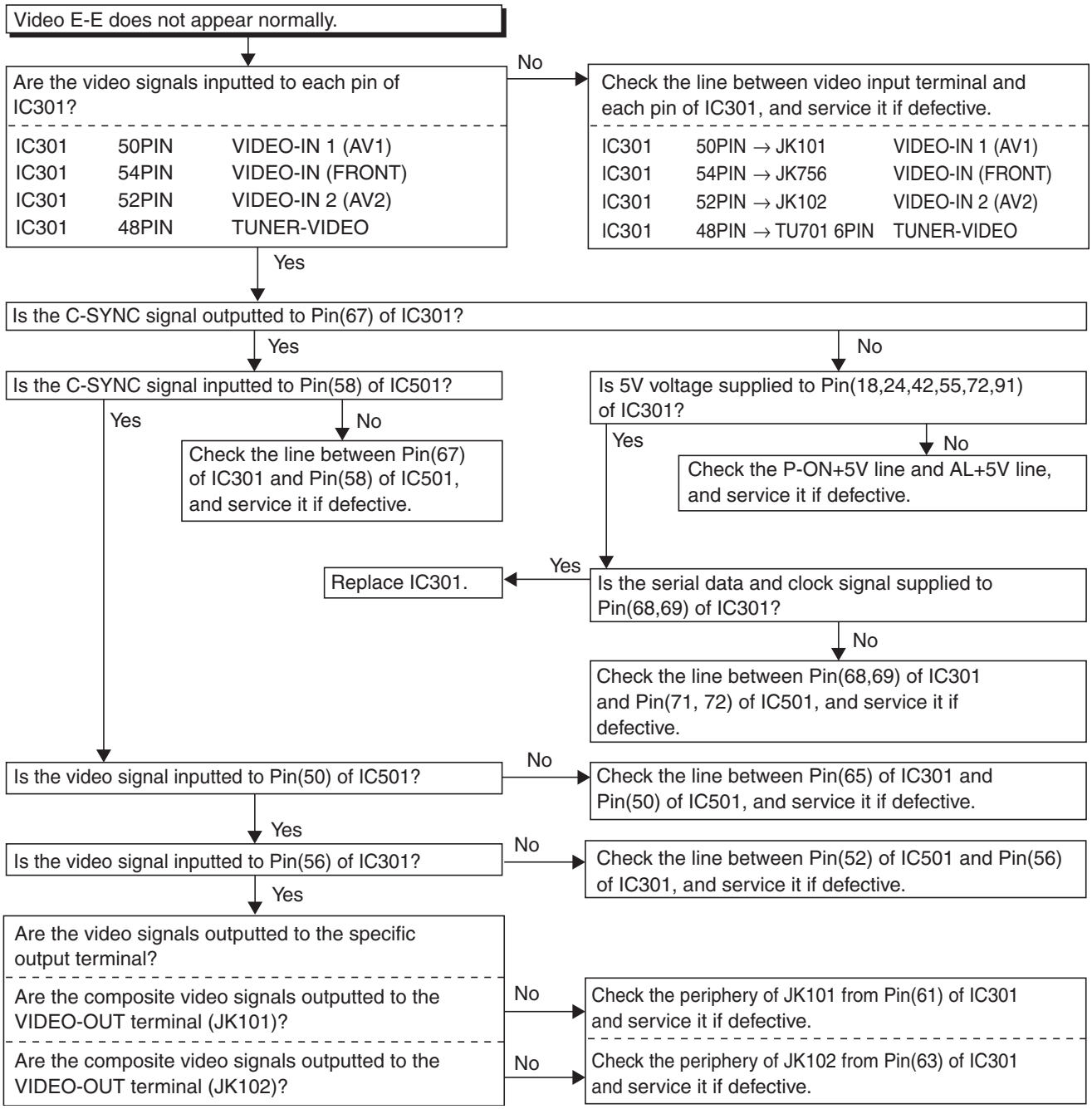

RF-SW signal is not outputted.

Is the Drum Motor rotating?
- No → Refer to "FLOW CHART NO.17" <Drum Motor does not rotate> and "FLOW CHART NO.18" <Drum Motor rotates only for a few seconds>.
- Yes ↓

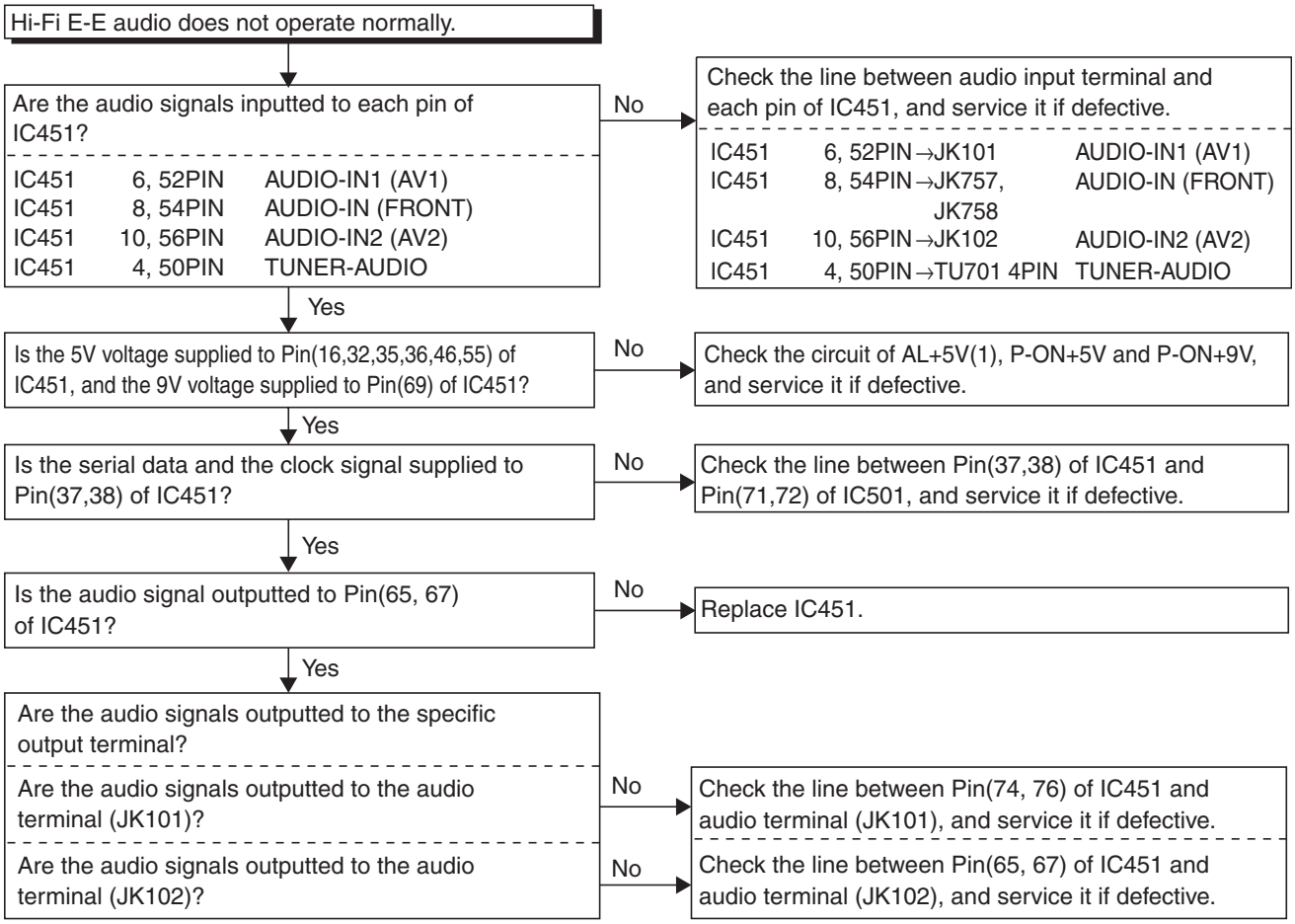
Is the D-PFG signal inputted to Pin(90) of IC501?
- No → Replace the Capstan Motor or the Cylinder Assembly.
- Yes ↓

Replace IC501.

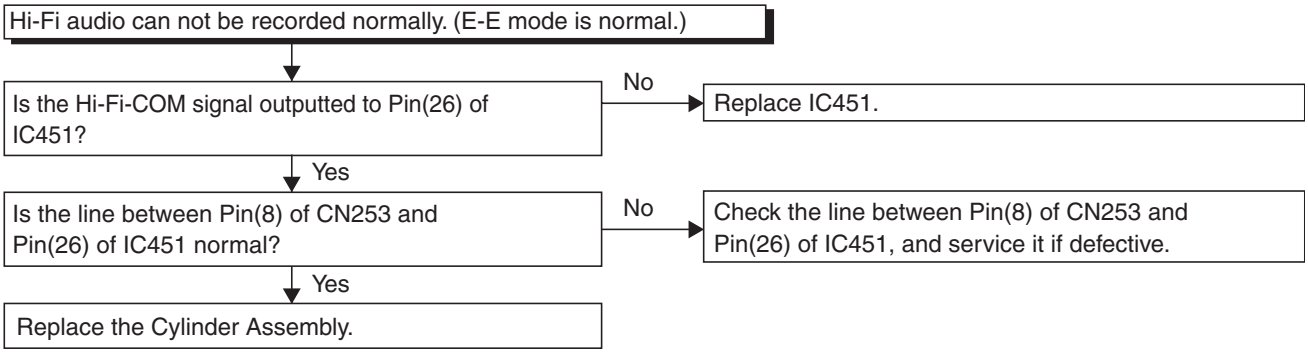
**FLOW CHART NO.20**


Video E-E does not appear normally.
Are the video signals inputted to each pin of IC301?
IC301 50PIN VIDEO-IN 1 (AV1)
IC301 54PIN VIDEO-IN (FRONT)
IC301 52PIN VIDEO-IN 2 (AV2)
IC301 48PIN TUNER-VIDEO
No
Check the line between video input terminal and each pin of IC301, and service it if defective.
IC301 50PIN → JK101 VIDEO-IN 1 (AV1)
IC301 54PIN → JK756 VIDEO-IN (FRONT)
IC301 52PIN → JK102 VIDEO-IN 2 (AV2)
IC301 48PIN → TU701 6PIN TUNER-VIDEO
Yes
Is the C-SYNC signal outputted to Pin(67) of IC301?
Yes
No
Is the C-SYNC signal inputted to Pin(58) of IC501?
Is 5V voltage supplied to Pin(18,24,42,55,72,91) of IC301?
Yes
No
Check the line between Pin(67) of IC301 and Pin(58) of IC501, and service it if defective.
Yes
No
Check the P-ON+5V line and AL+5V line, and service it if defective.
Yes
Replace IC301.
Is the serial data and clock signal supplied to Pin(68,69) of IC301?
No
Check the line between Pin(68,69) of IC301 and Pin(71, 72) of IC501, and service it if defective.
Is the video signal inputted to Pin(50) of IC501?
No
Check the line between Pin(65) of IC301 and Pin(50) of IC501, and service it if defective.
Yes
Is the video signal inputted to Pin(56) of IC301?
No
Check the line between Pin(52) of IC501 and Pin(56) of IC301, and service it if defective.
Yes
Are the video signals outputted to the specific output terminal?
Are the composite video signals outputted to the VIDEO-OUT terminal (JK101)?
No
Check the periphery of JK101 from Pin(61) of IC301 and service it if defective.
Are the composite video signals outputted to the VIDEO-OUT terminal (JK102)?
No
Check the periphery of JK102 from Pin(63) of IC301 and service it if defective.

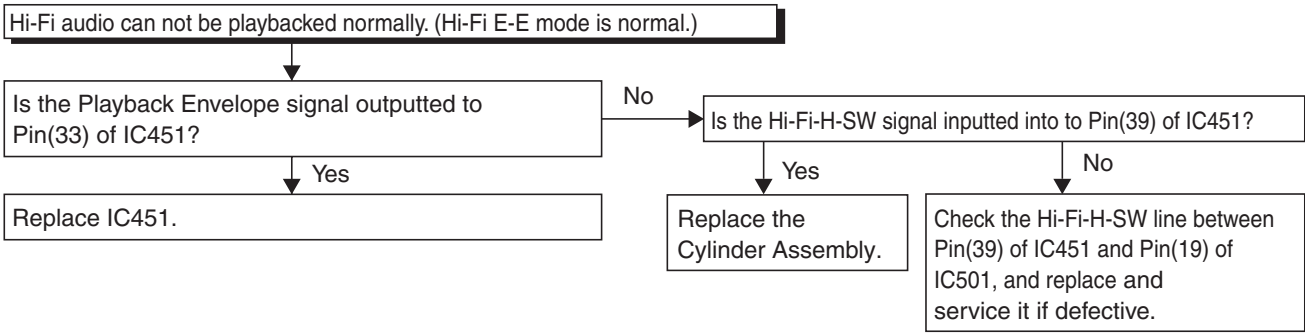
**FLOW CHART NO.21**


Hi-Fi E-E audio does not operate normally.
Are the audio signals inputted to each pin of IC451?
IC451 6, 52PIN AUDIO-IN1 (AV1)
IC451 8, 54PIN AUDIO-IN (FRONT)
IC451 10, 56PIN AUDIO-IN2 (AV2)
IC451 4, 50PIN TUNER-AUDIO
No
Check the line between audio input terminal and each pin of IC451, and service it if defective.
IC451 6, 52PIN →JK101 AUDIO-IN1 (AV1)
IC451 8, 54PIN →JK757, JK758 AUDIO-IN (FRONT)
IC451 10, 56PIN →JK102 AUDIO-IN2 (AV2)
IC451 4, 50PIN →TU701 4PIN TUNER-AUDIO
Yes
Is the 5V voltage supplied to Pin(16,32,35,36,46,55) of IC451, and the 9V voltage supplied to Pin(69) of IC451?
No
Check the circuit of AL+5V(1), P-ON+5V and P-ON+9V, and service it if defective.
Yes
Is the serial data and the clock signal supplied to Pin(37,38) of IC451?
No
Check the line between Pin(37,38) of IC451 and Pin(71,72) of IC501, and service it if defective.
Yes
Is the audio signal outputted to Pin(65, 67) of IC451?
No
Replace IC451.
Yes
Are the audio signals outputted to the specific output terminal?
Are the audio signals outputted to the audio terminal (JK101)?
No
Check the line between Pin(74, 76) of IC451 and audio terminal (JK101), and service it if defective.
Are the audio signals outputted to the audio terminal (JK102)?
No
Check the line between Pin(65, 67) of IC451 and audio terminal (JK102), and service it if defective.

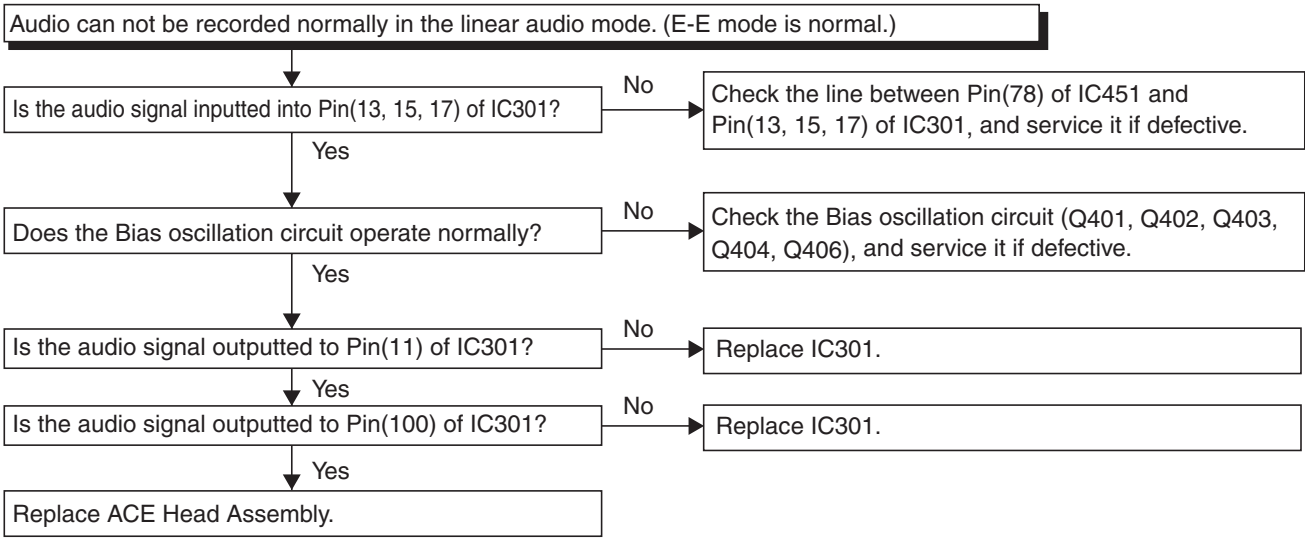
**FLOW CHART NO.22**


Hi-Fi audio can not be recorded normally. (E-E mode is normal.)
Is the Hi-Fi-COM signal outputted to Pin(26) of IC451?
No
Replace IC451.
Yes
Is the line between Pin(8) of CN253 and Pin(26) of IC451 normal?
No
Check the line between Pin(8) of CN253 and Pin(26) of IC451, and service it if defective.
Yes
Replace the Cylinder Assembly.

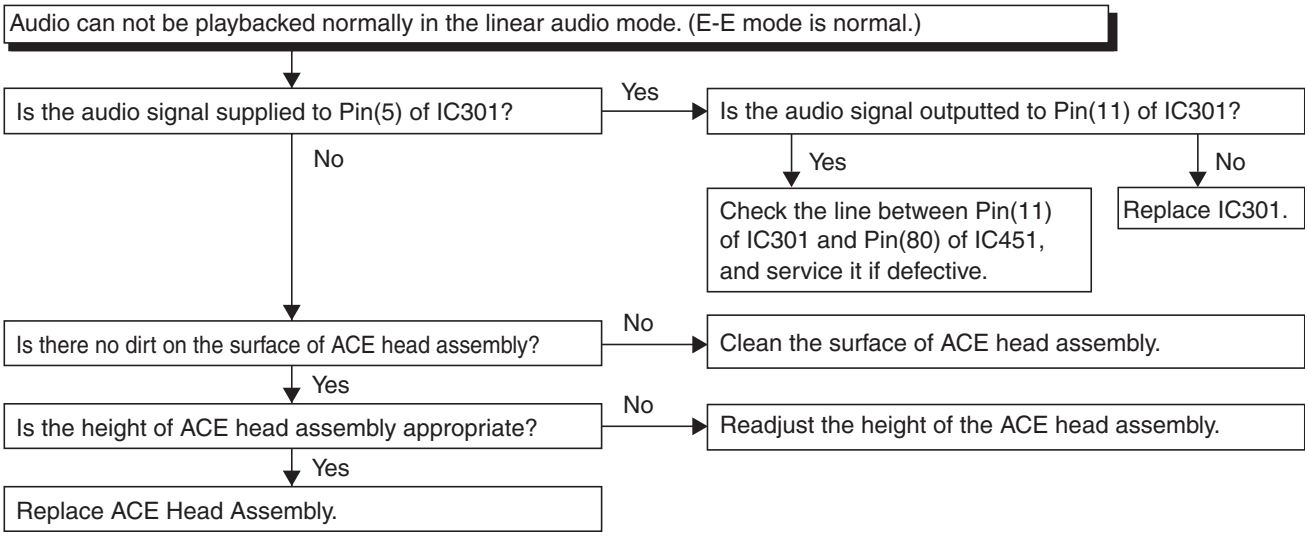
**FLOW CHART NO.23**


Hi-Fi audio can not be playbacked normally. (Hi-Fi E-E mode is normal.)
Is the Playback Envelope signal outputted to Pin(33) of IC451?
No
Is the Hi-Fi-H-SW signal inputted into to Pin(39) of IC451?
Yes
No
Yes
Replace IC451.
Replace the Cylinder Assembly.
Check the Hi-Fi-H-SW line between Pin(39) of IC451 and Pin(19) of IC501, and replace and service it if defective.

**FLOW CHART NO.24**

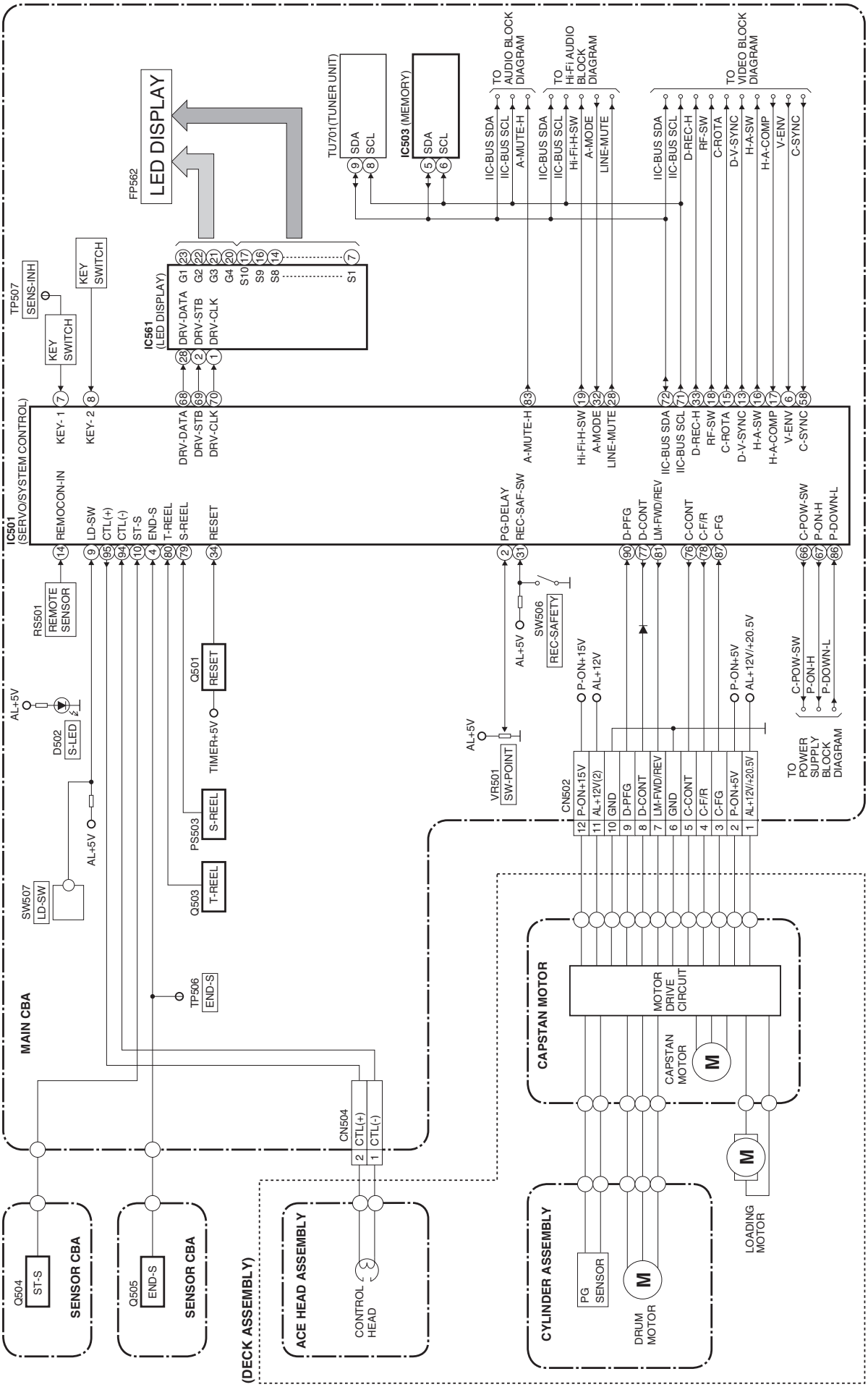

Audio can not be recorded normally in the linear audio mode. (E-E mode is normal.)
Is the audio signal inputted into Pin(13, 15, 17) of IC301?
No
Check the line between Pin(78) of IC451 and Pin(13, 15, 17) of IC301, and service it if defective.
Yes
Does the Bias oscillation circuit operate normally?
No
Check the Bias oscillation circuit (Q401, Q402, Q403, Q404, Q406), and service it if defective.
Yes
Is the audio signal outputted to Pin(11) of IC301?
No
Replace IC301.
Yes
Is the audio signal outputted to Pin(100) of IC301?
No
Replace IC301.
Yes
Replace ACE Head Assembly.

**FLOW CHART NO.25**

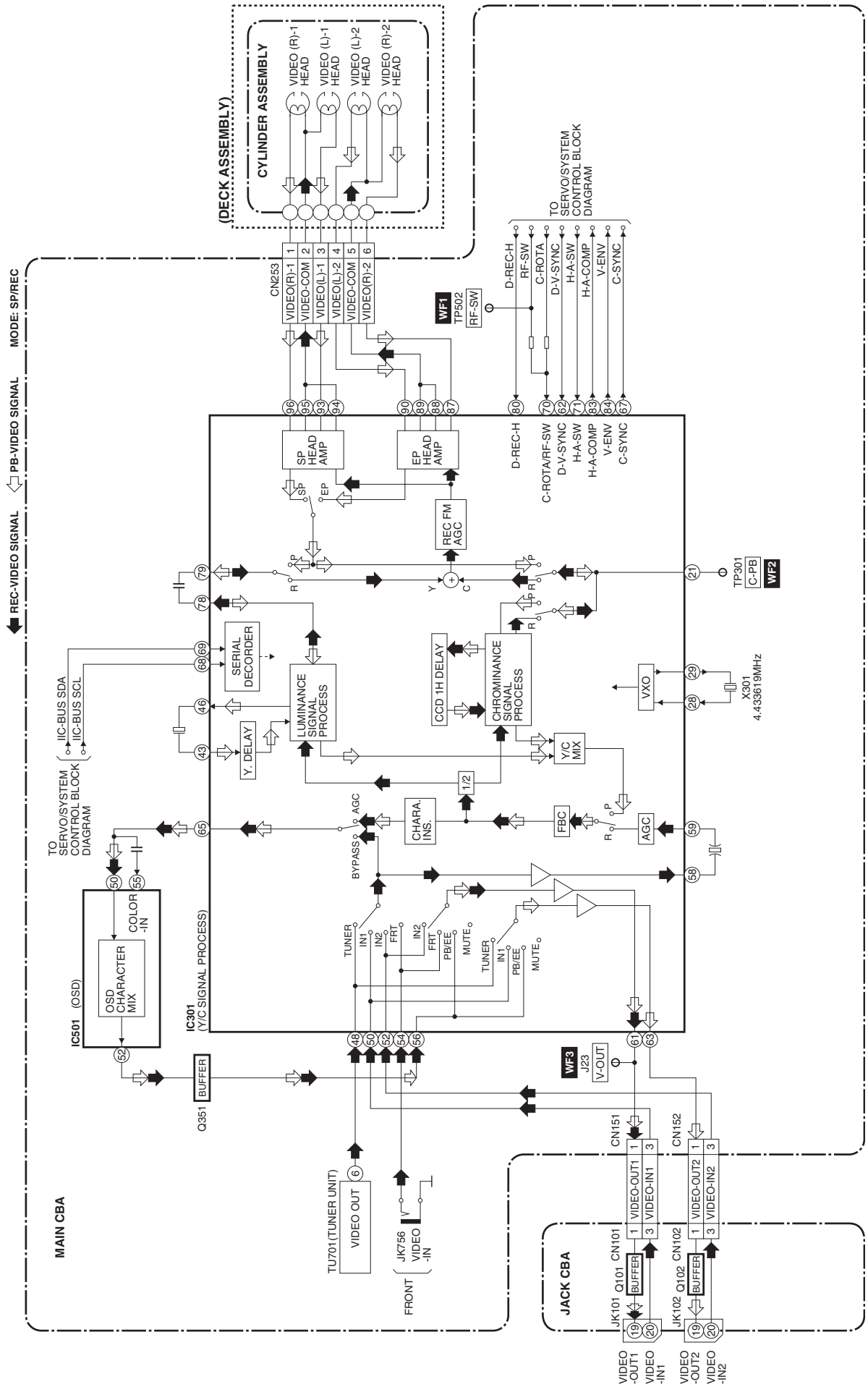

Audio can not be playbacked normally in the linear audio mode. (E-E mode is normal.)
Is the audio signal supplied to Pin(5) of IC301?
Yes
Is the audio signal outputted to Pin(11) of IC301?
No
Yes
No
Check the line between Pin(11) of IC301 and Pin(80) of IC451, and service it if defective.
Replace IC301.
Is there no dirt on the surface of ACE head assembly?
No
Clean the surface of ACE head assembly.
Yes
Is the height of ACE head assembly appropriate?
No
Readjust the height of the ACE head assembly.
Yes
Replace ACE Head Assembly.

# BLOCK DIAGRAMS

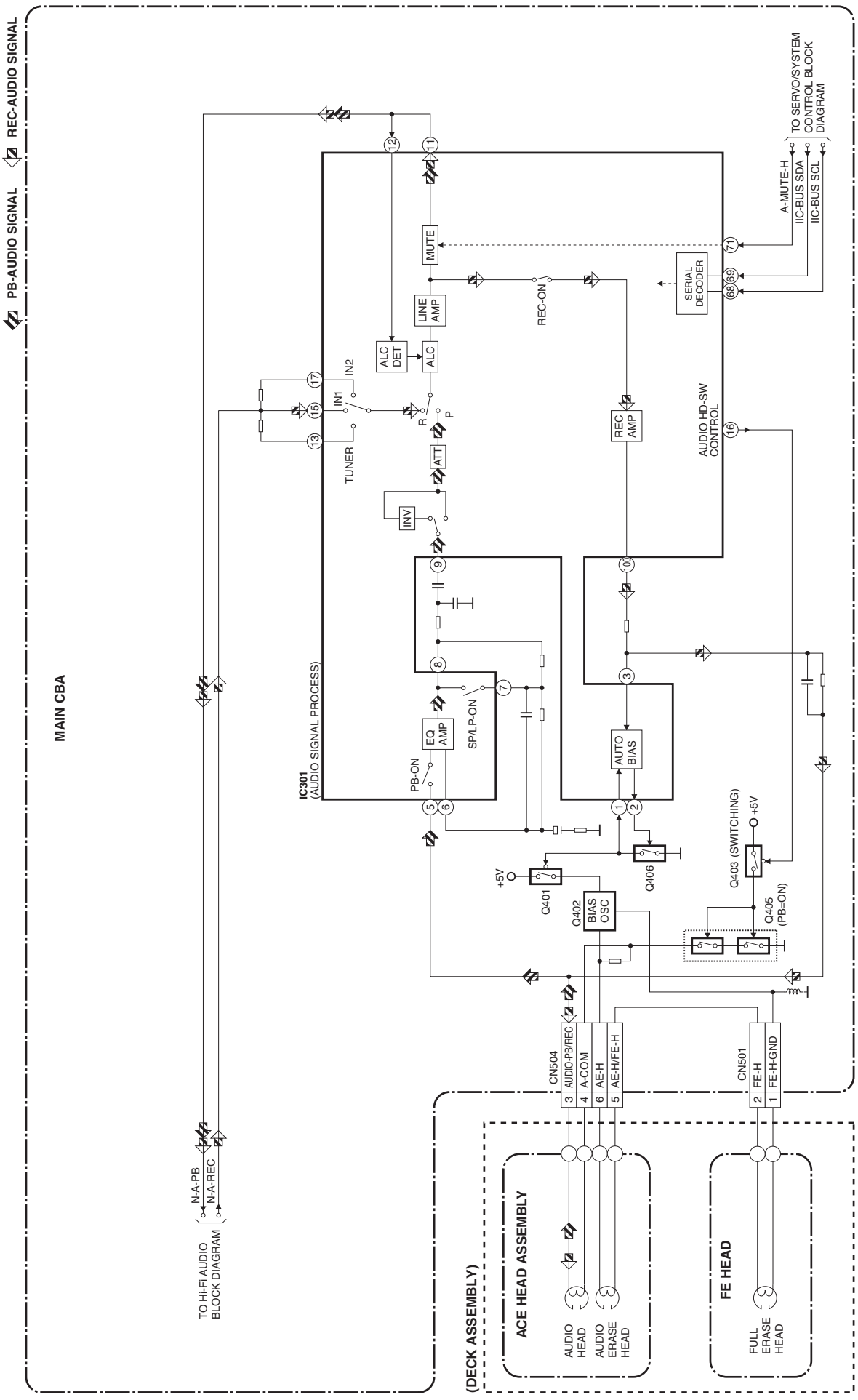
## Servo / System Control Block Diagram



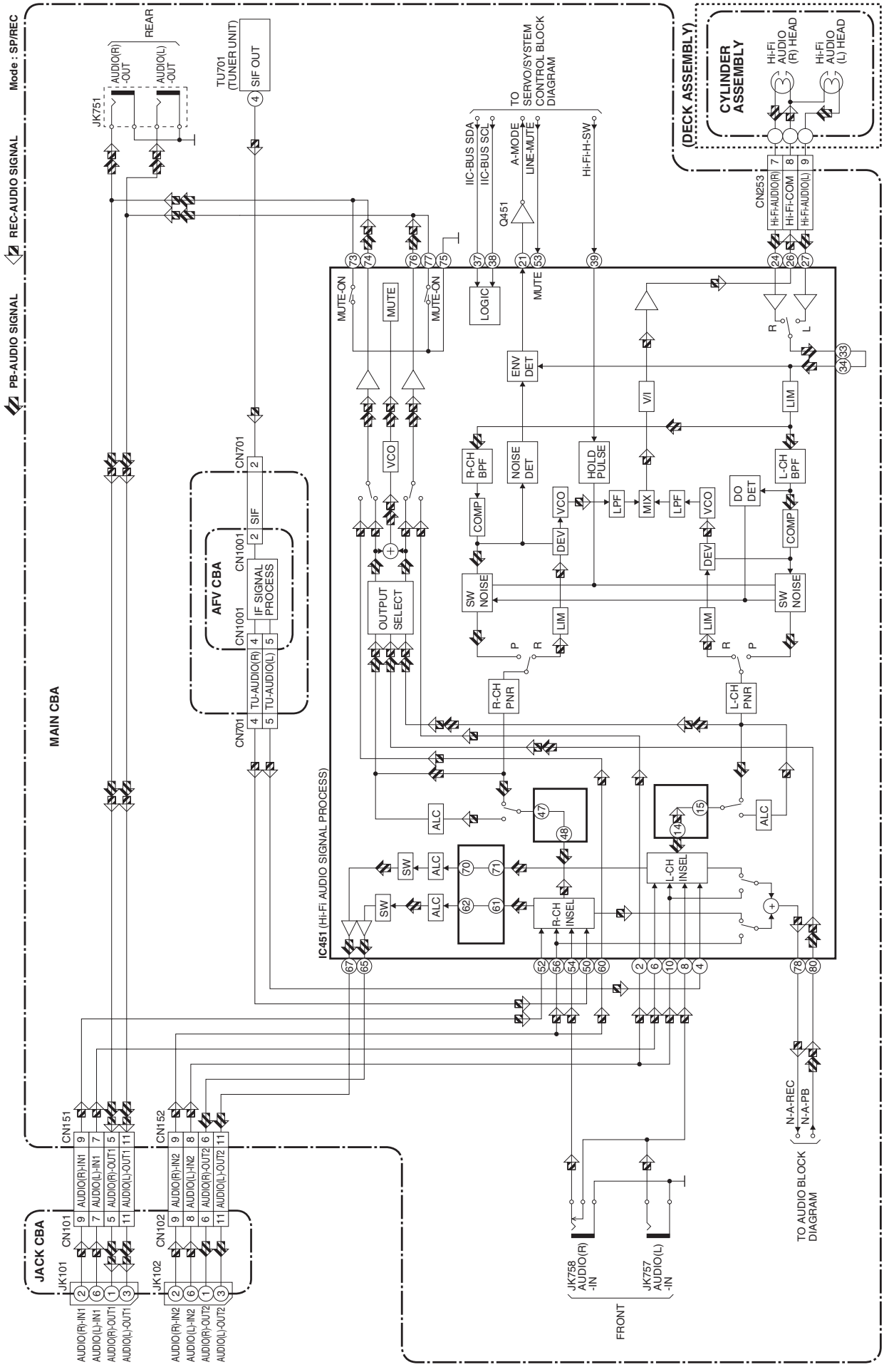
# Video Block Diagram



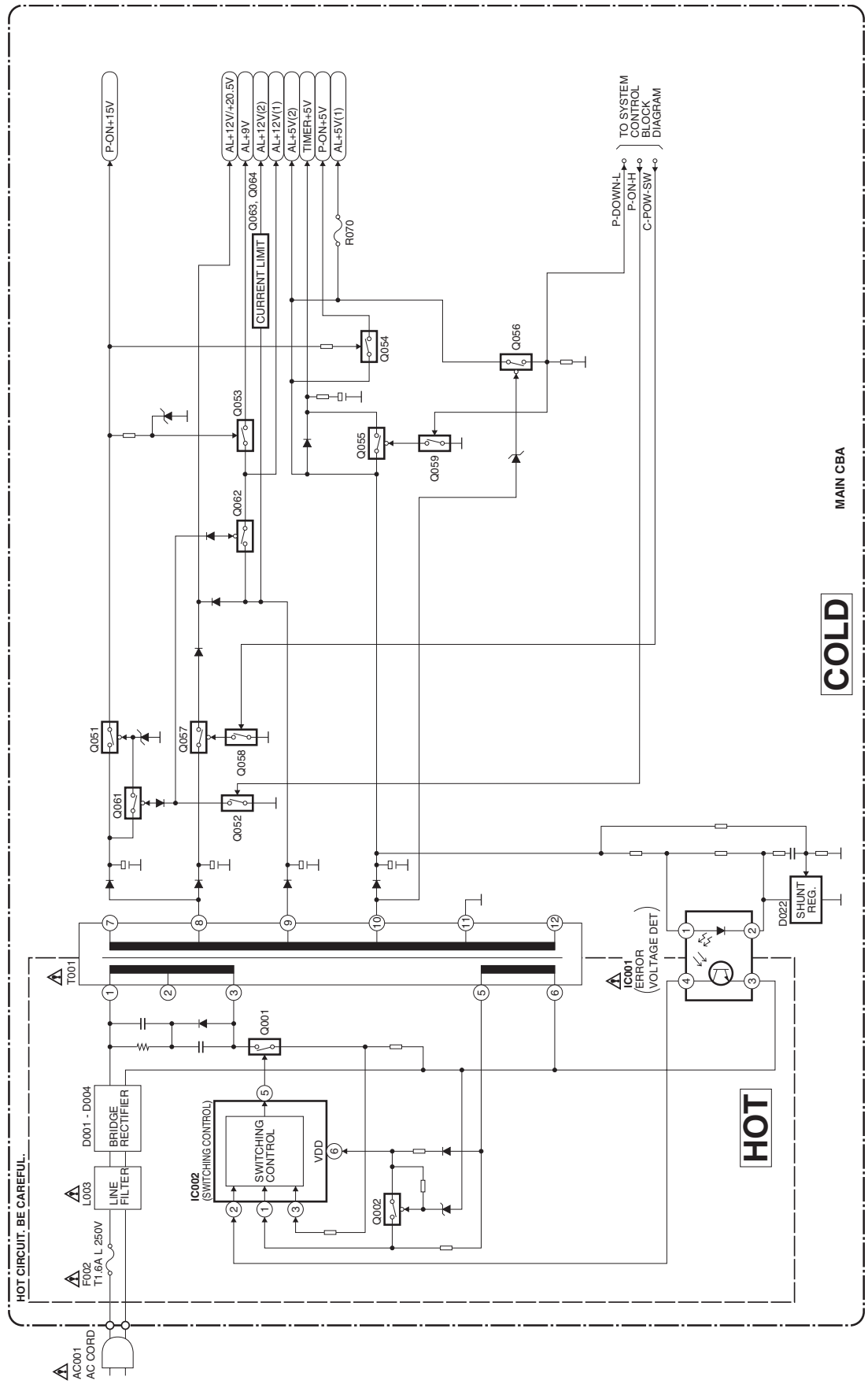
# Audio Block Diagram



# Hi-Fi Audio Block Diagram



# Power Supply Block Diagram




**CAUTION !**
For continued protection against fire hazard, replace only with the same type fuse.

**NOTE:**
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION !**
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

# SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

## Standard Notes

## WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

## Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.
6. Electrical parts such as capacitors, connectors, diodes, IC's, transistors, resistors, switches, and fuses are identified by four digits. The first two digits are not shown for each component. In each block of the diagram, there is a note such as shown below to indicate these abbreviated two digits.

## LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

### 1. CAUTION:

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

### 2. CAUTION:

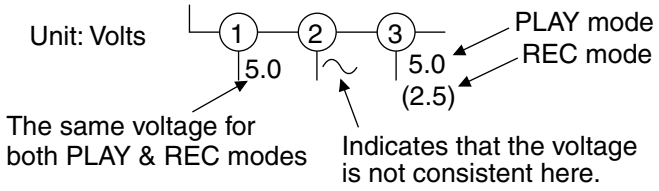
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F002) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

### 3. Note:

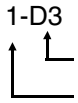
1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

### 4. Mode: SP/REC

### 5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

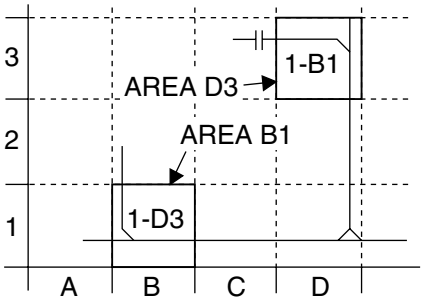



### 6. How to read converged lines




Examples:

1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".




### 7. Test Point Information

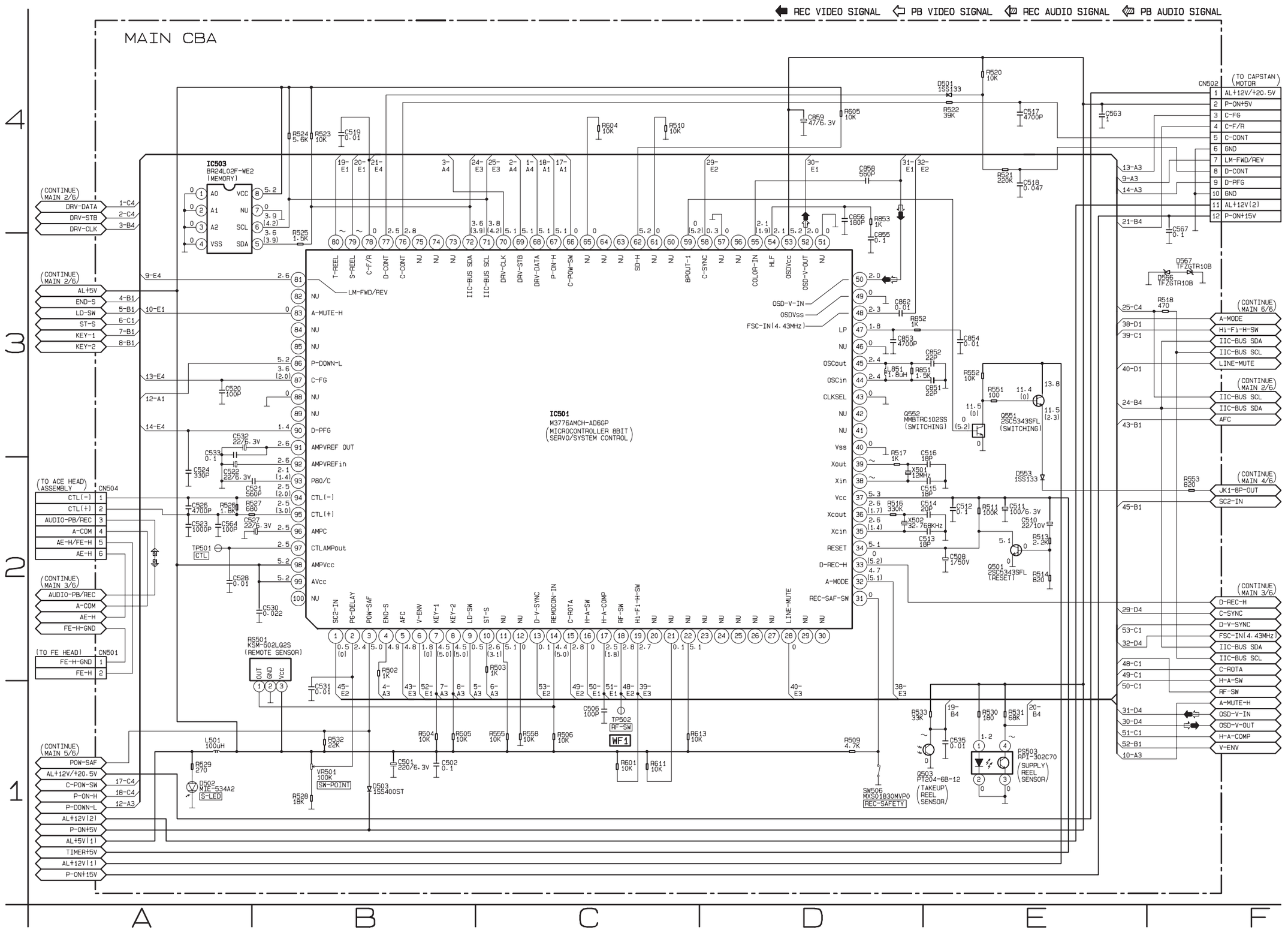
: Indicates a test point with a jumper wire across a hole in the BOARD.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

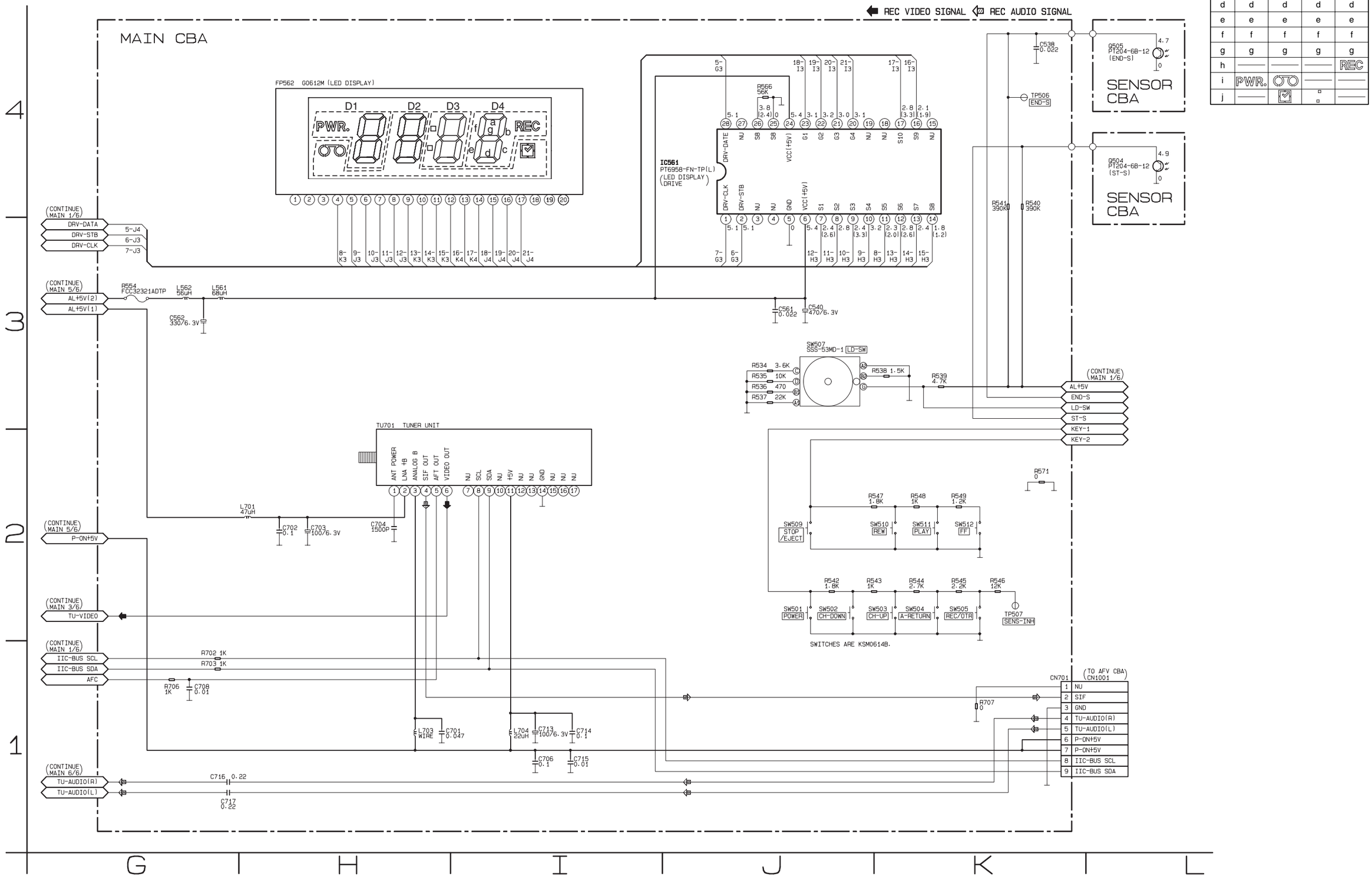
# Main 1/6 Schematic Diagram



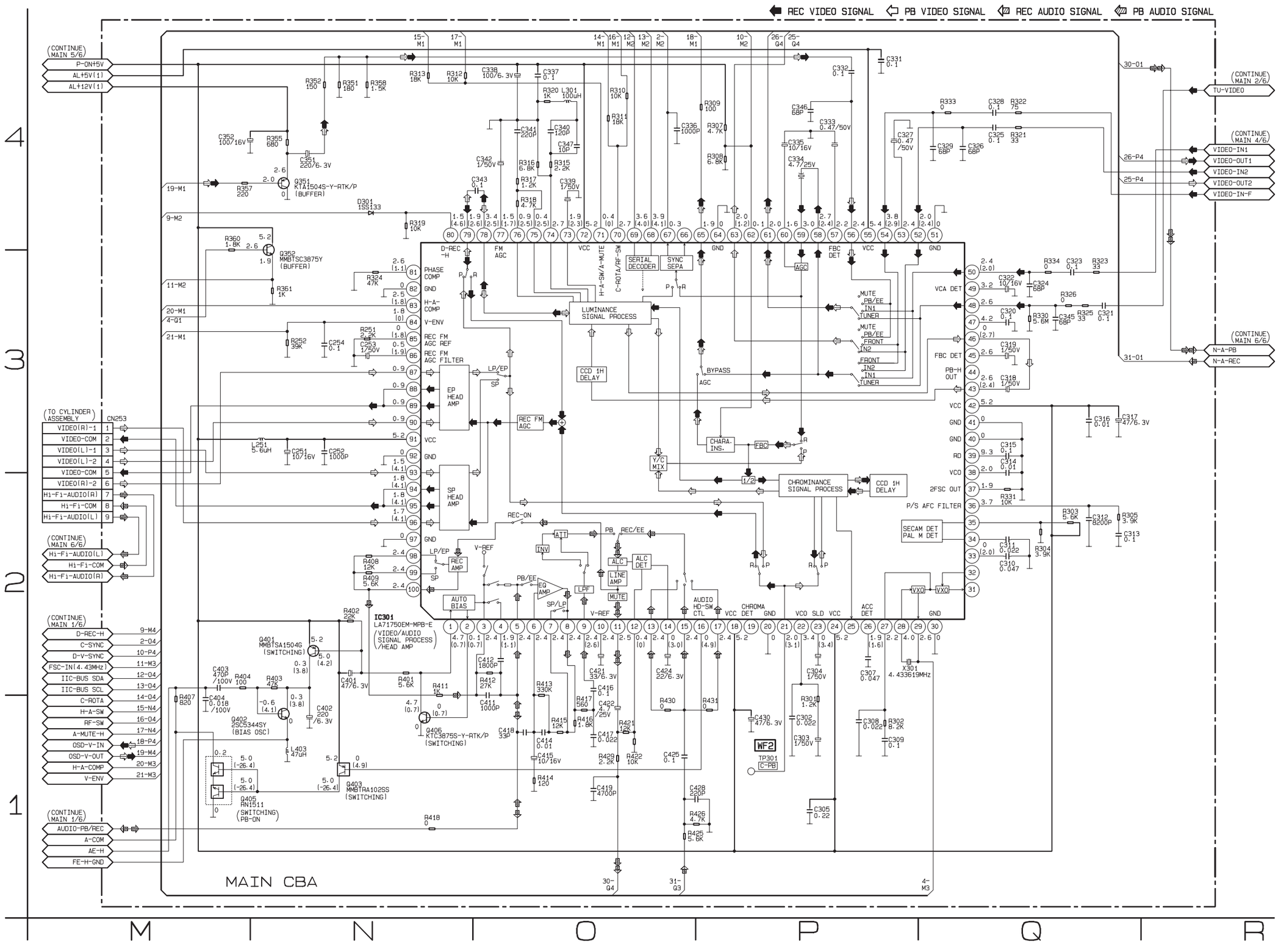
# Main 2/6 & Sensor Schematic Diagram

FP562 MATRIX CHART

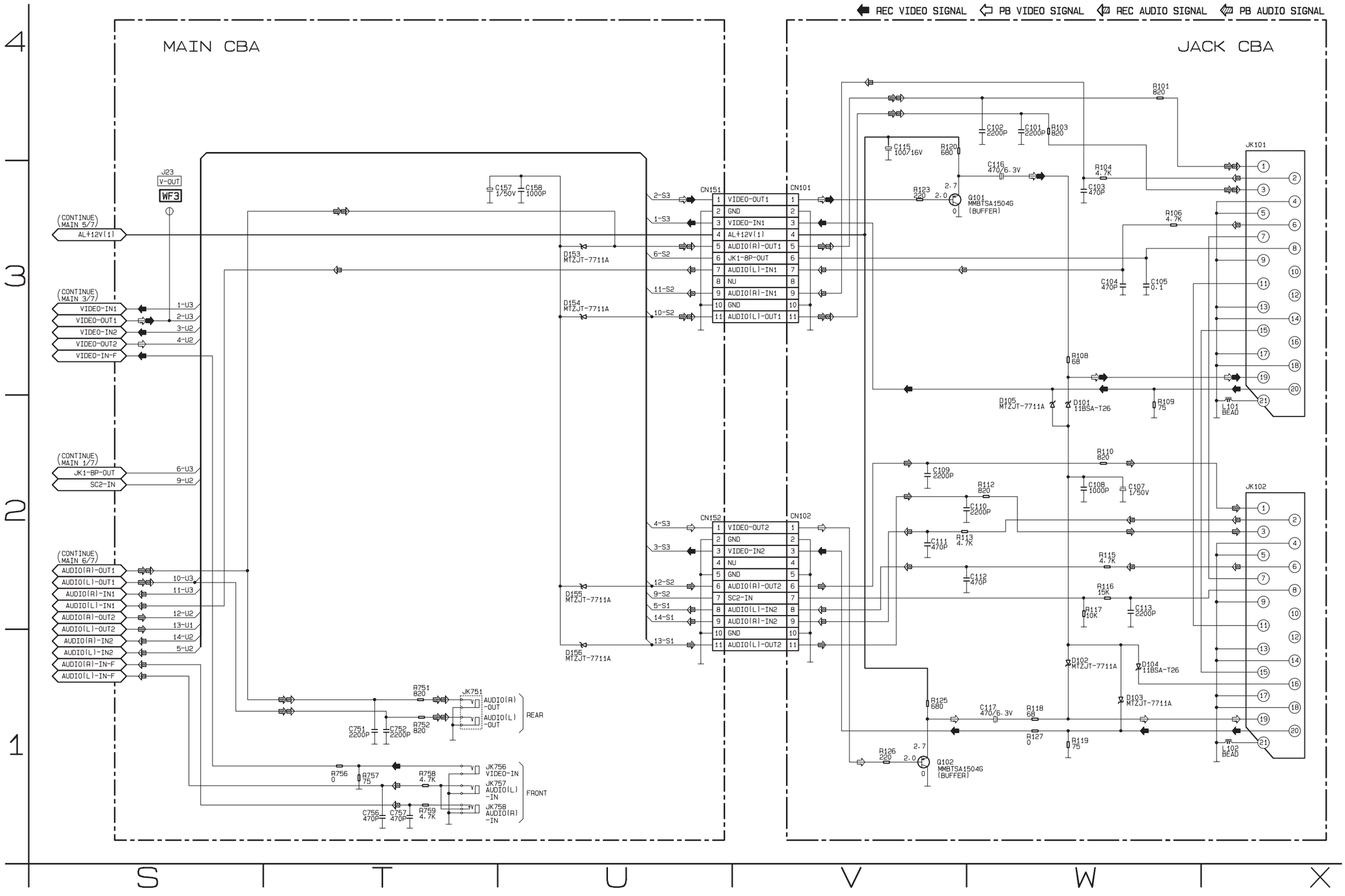
| | D1 | D2 | D3 | D4 |
|---|---|---|---|---|
| a | a | a | a | a |
| b | b | b | b | b |
| c | c | c | c | c |
| d | d | d | d | d |
| e | e | e | e | e |
| f | f | f | f | f |
| g | g | g | g | g |
| h | | | | REC |
| i | PWR. | | | |
| j | | | | |



# Main 3/6 Schematic Diagram



## Main 4/6 & Jack Schematic Diagram

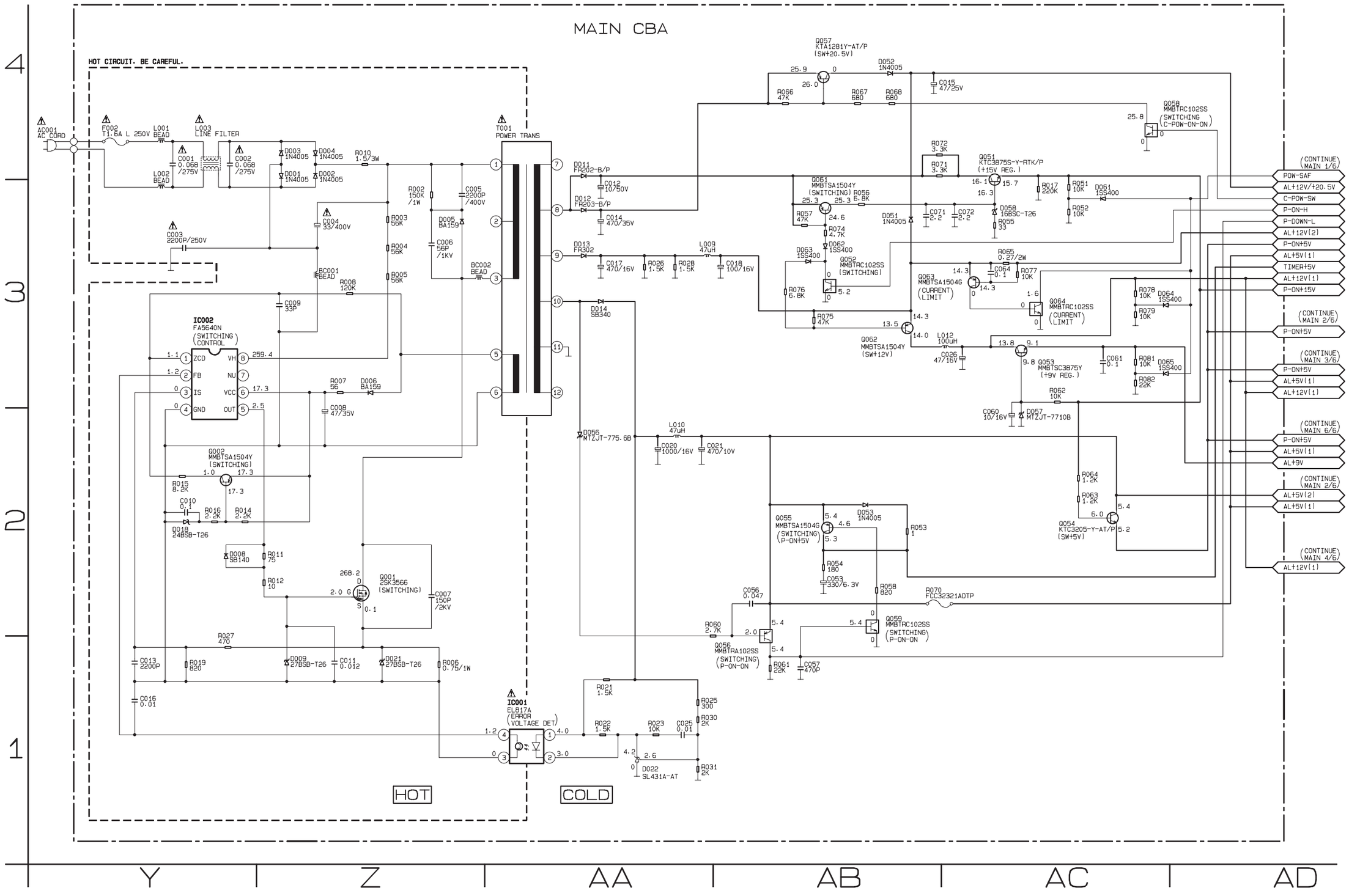


# Main 5/6 Schematic Diagram

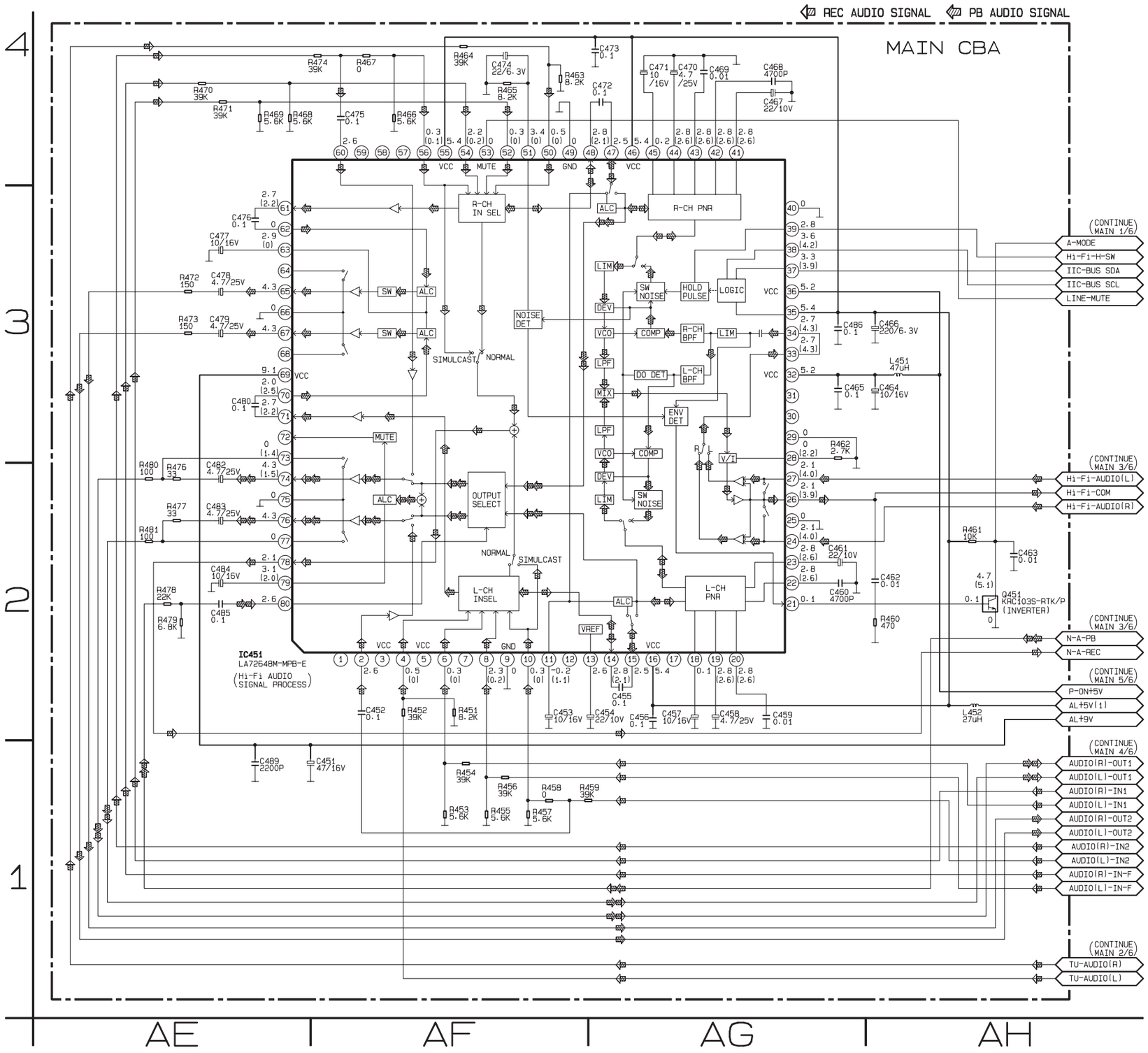
**CAUTION !**
For continued protection against fire hazard, replace only with the same type fuse.

**NOTE:**
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

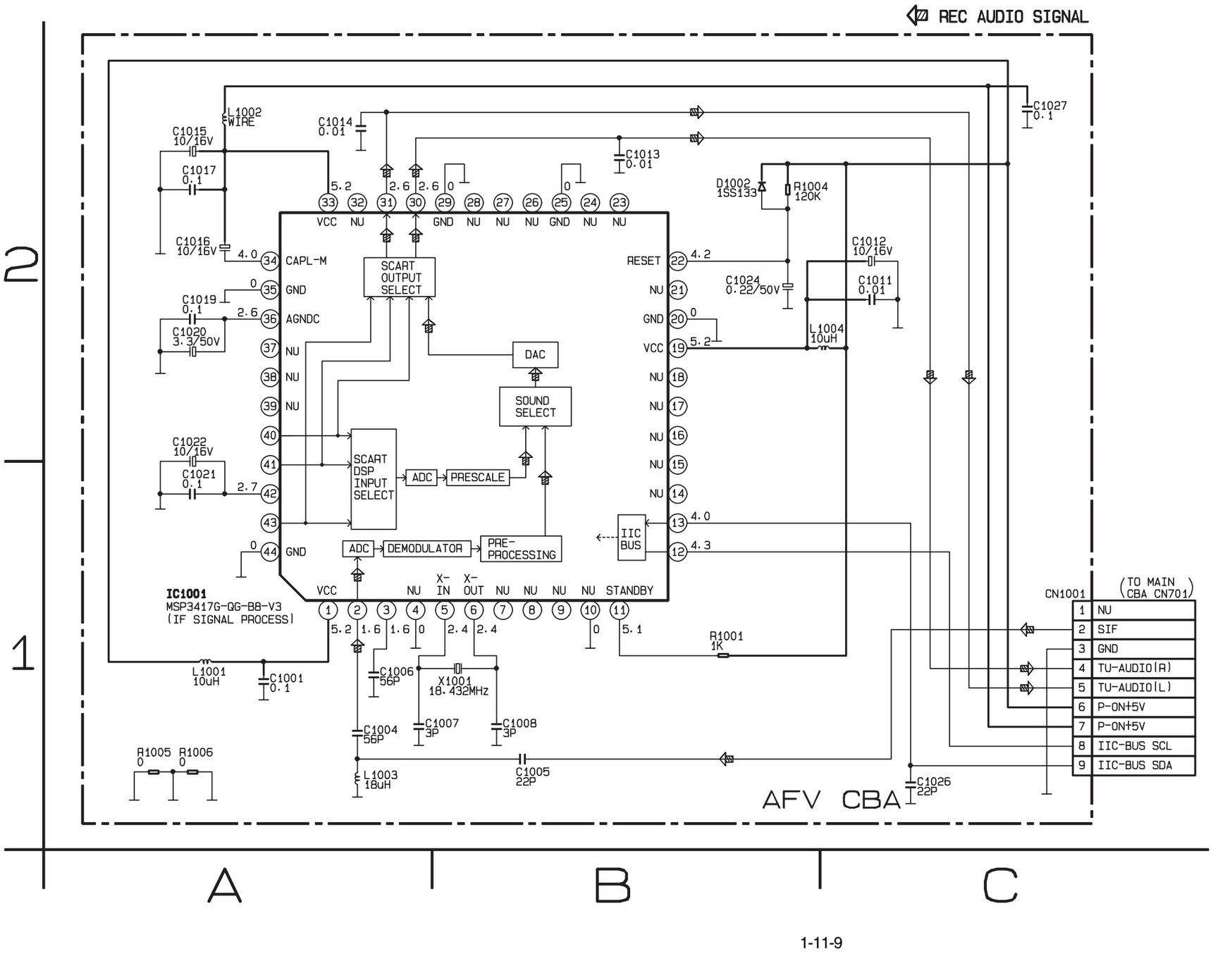
**CAUTION !**
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



## Main 6/6 Schematic Diagram



## AFV Schematic Diagram



# Main CBA, Jack CBA & AFV CBA Top View

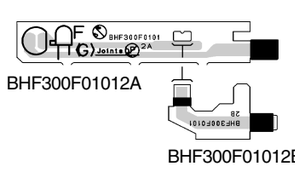
**CAUTION !**
For continued protection against fire hazard,
replace only with the same type fuse.

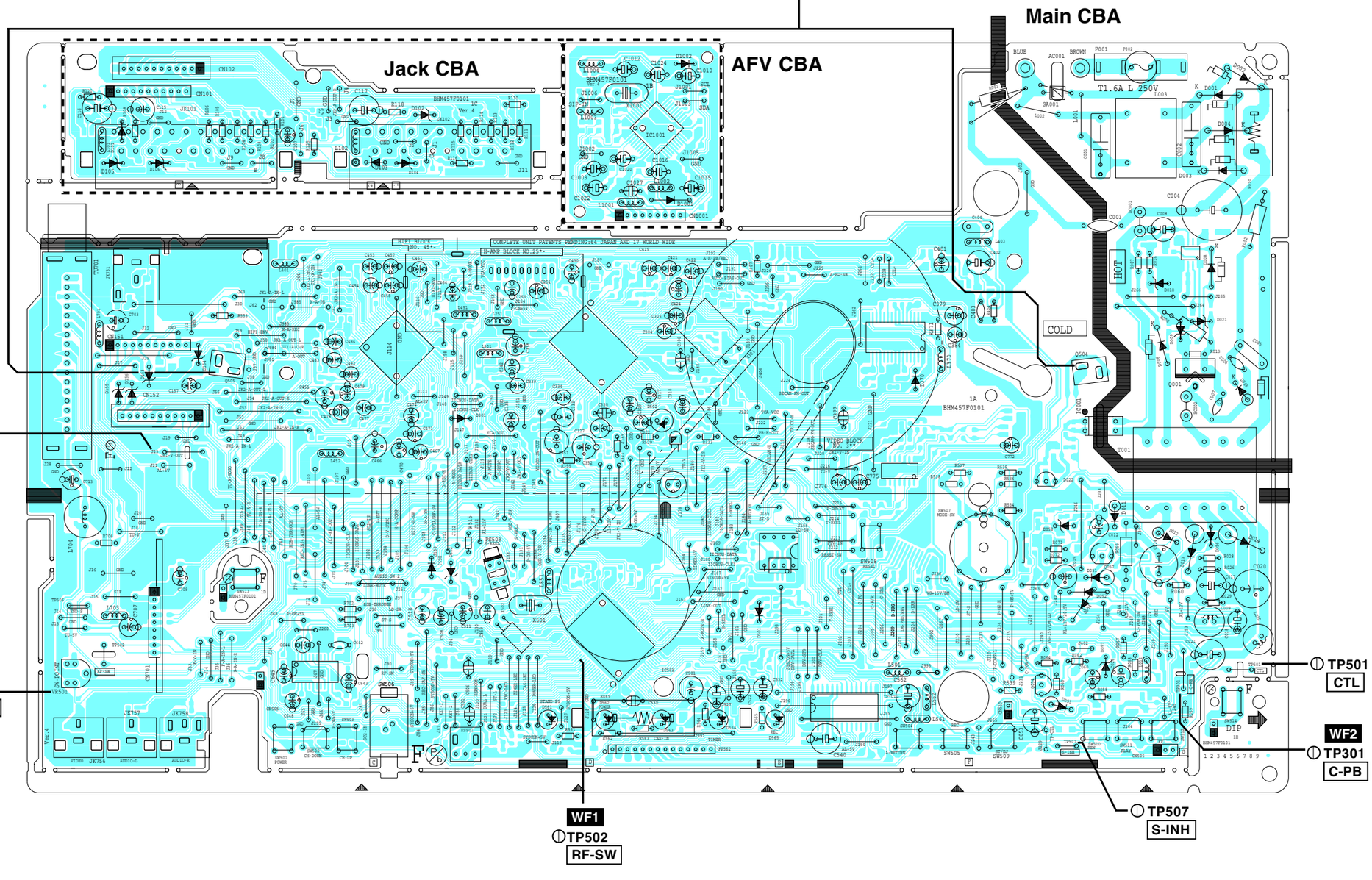
**NOTE:**
The voltage for parts in hot circuit is measured using
hot GND as a common terminal.

**CAUTION !**
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F002) is blown , check to see that all components in the power supply
circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

**Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing. Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.**

**Sensor CBA Top View**



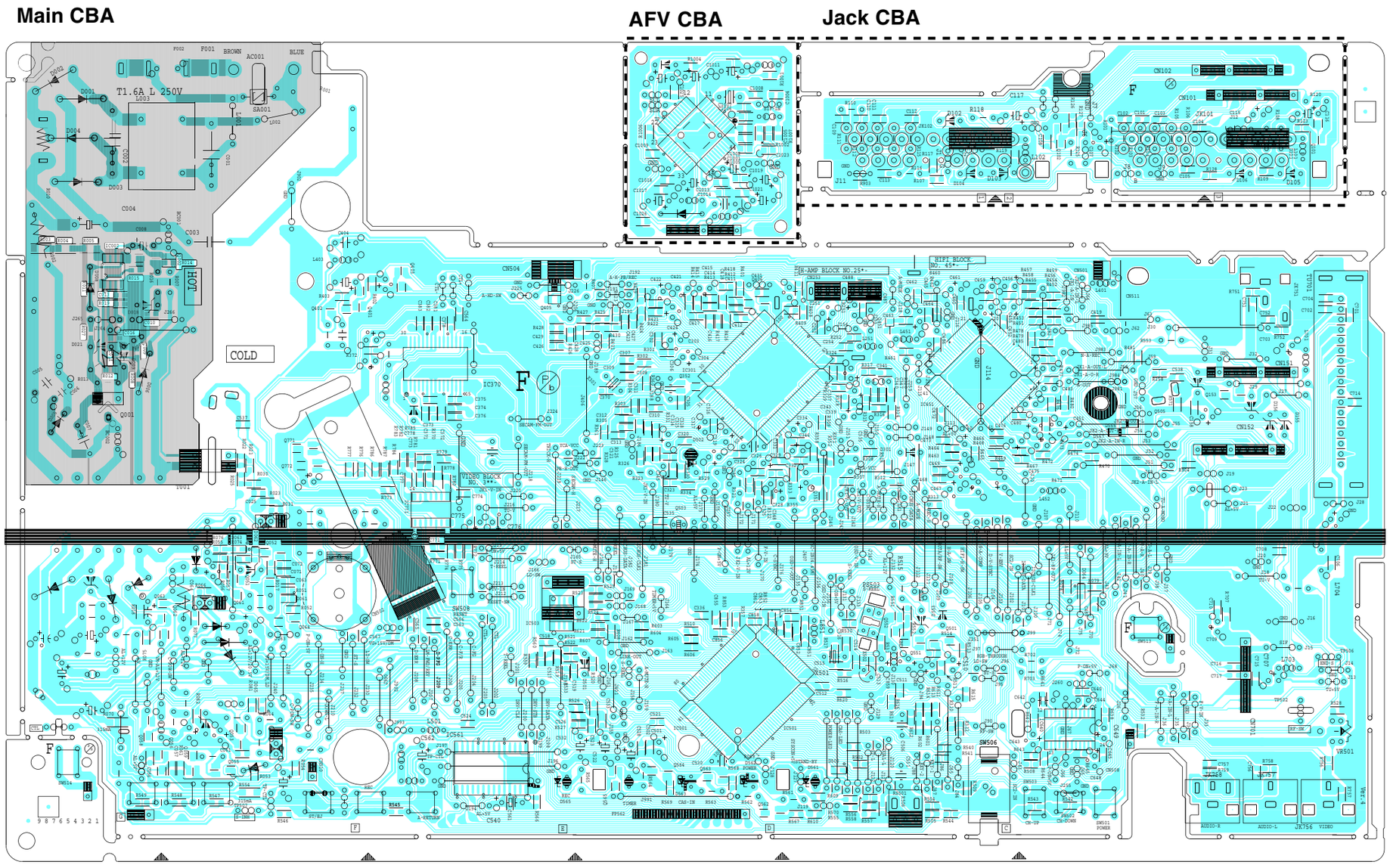
# Main CBA, Jack CBA & AFV CBA Bottom View

**CAUTION !**
For continued protection against fire hazard, replace only with the same type fuse.

**NOTE:**
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION !**
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F002) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used when repairing. Also, in order to have the ability to increase the input slowly, when troubleshooting this type of power supply circuit, a variable isolation transformer is required.**

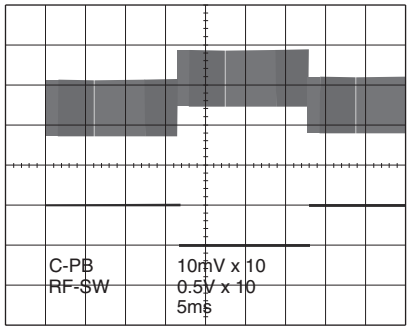


# WAVEFORMS

**NOTE:**
Input
VCR: COLOR BAR SIGNAL (WITH 1KHz AUDIO SIGNAL)
(WF1~WF3)

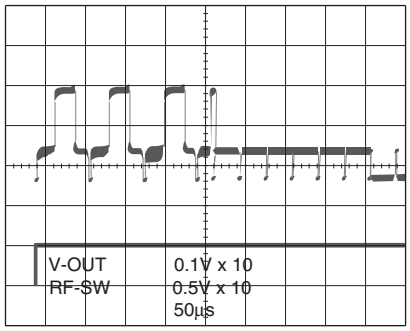
**WF2** UPPER TP301

**WF1** LOWER TP502

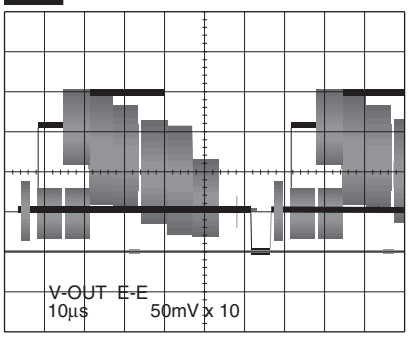



**WF3** UPPER J23

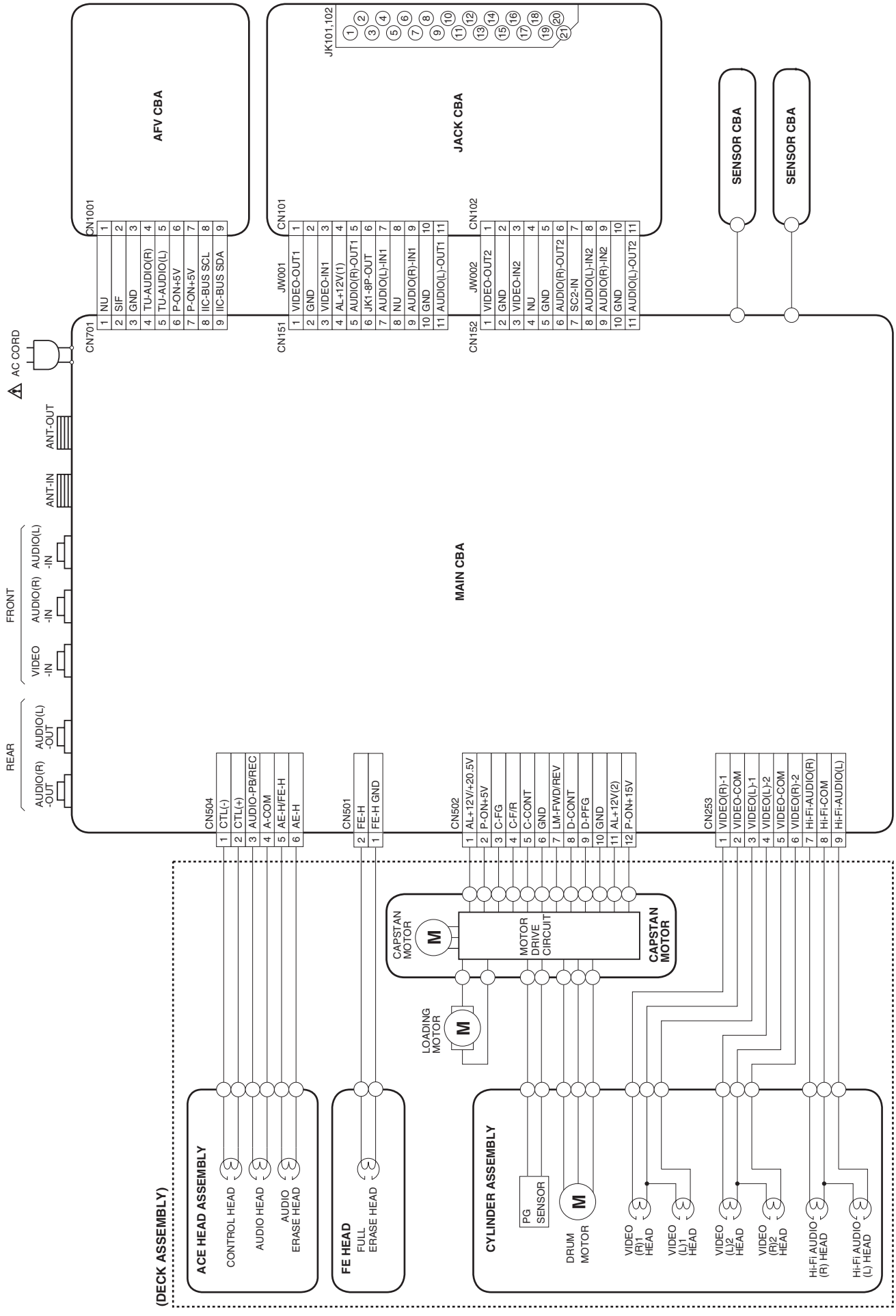
**WF1** LOWER TP502




**WF3** J23



# WIRING DIAGRAM



# IC PIN FUNCTION DESCRIPTIONS

## IC501( SERVO / SYSTEM CONTROL IC )

**"H" ≥ 4.5V, "L" ≤ 1.0V**

| Pin No. | IN/ OUT | Signal Name | Function | Active Level |
|---|---|---|---|---|
| 1 | IN | SC2-IN | Input Signal from Pin 8 of SCART2 | A/D |
| 2 | IN | PG-DELAY | Video Head Switching Pulse Signal Adjusted Voltage | A/D |
| 3 | IN | POW-SAF | P-ON Power Detection Input Signal | A/D |
| 4 | IN | END-S | Tape End Position Detect Signal | A/D |
| 5 | IN | AFC | Automatic Frequency Control Signal | A/D |
| 6 | IN | V-ENV | Video Envelope Comparator Signal | A/D |
| 7 | IN | KEY-1 | Key Scan Input Signal 1 | A/D |
| 8 | IN | KEY-2 | Key Scan Input Signal 2 | A/D |
| 9 | IN | LD-SW | Deck Mode Position Detector Signal | A/D |
| 10 | IN | ST-S | Tape Start Position Detector Signal | A/D |
| 11 | - | NU | Not Used | - |
| 12 | - | NU | Not Used | - |
| 13 | OUT | D-V-SYNC | Dummy V-sync Output | H/Hi-z |
| 14 | IN | REMOCON-IN | Remote Control Sensor | L |
| 15 | OUT | C-ROTA | Color Phase Rotary Changeover SIgnal | H/L |
| 16 | OUT | H-A-SW | Video Head Amp Switching Pulse | H/L |
| 17 | IN | H-A-COMP | Head Amp Comparator Signal | H/L |
| 18 | OUT | RF-SW | Video Head Switching Pulse | H/L |
| 19 | OUT | Hi-Fi-H-SW | Hi-Fi Audio Head Switching Pulse | H/L |
| 20 | - | NU | Not Used | - |
| 21 | - | NU | Not Used | - |
| 22 | - | NU | Not Used | - |
| 23 | - | NU | Not Used | - |
| 24 | - | NU | Not Used | - |
| 25 | - | NU | Not Used | - |
| 26 | - | NU | Not Used | - |
| 27 | - | NU | Not Used | - |
| 28 | OUT | LINE-MUTE | Audio Mute Control Signal | H |
| 29 | - | NU | Not Used | - |
| 30 | - | NU | Not Used | - |
| 31 | IN | REC-SAF-SW | Recording Safety SW Detect (With Record tab="L"/ With out Record tab="H") | H |
| 32 | IN | A-MODE | Hi-Fi Tape Detection Signal | L |
| 33 | OUT | D-REC-H | Delayed Record Signal | H |
| 34 | IN | RESET | System Reset Signal (Reset="L") | L |
| 35 | IN | Xcin | Sub Clock | - |
| 36 | OUT | Xcout | Sub Clock | - |
| 37 | - | Vcc | Vcc | - |
| 38 | IN | Xin | Main Clock Input | - |
| 39 | OUT | Xout | Main Clock Input | - |
| 40 | - | Vss | Vss(GND) | - |
| 41 | - | NU | Not Used | - |
| 42 | - | NU | Not Used | - |
| 43 | IN | CLKSEL | Clock Select (GND) | - |
| 44 | IN | OSCin | Clock Input for letter size | - |
| 45 | OUT | OSCout | Clock Output for letter size | - |
| 46 | - | NU | Ground | - |
| 47 | - | LP | LP | - |
| 48 | IN | FSC-IN [4.43MHz] | 4.43MHz Clock Input | - |
| 49 | - | OSDVss | OSDVss | - |
| 50 | IN | OSD-V-IN | OSD Video Signal Input | - |
| 51 | - | NU | Ground | - |

| Pin No. | IN/ OUT | Signal Name | Function | Active Level |
|---|---|---|---|---|
| 52 | OUT | OSD-V-OUT | OSD Video Signal Output | - |
| 53 | - | OSDVcc | OSDVcc | - |
| 54 | - | HLF | LPF Connected Terminal (Slicer) | - |
| 55 | IN | COLOR-IN | SECAM or MESECAM Chroma Video Input Signal at Super Impose | Z/L |
| 56 | - | NU | Not Used | - |
| 57 | - | NU | Ground | - |
| 58 | IN | C-SYNC | Composite Synchronized Pulse | PULSE |
| 59 | OUT | 8POUT-1 | SCART 18Pin Output Control Signal | H/L |
| 60 | - | NU | Not Used | - |
| 61 | - | NU | Not Used | - |
| 62 | OUT | SD-H | SD-H | - |
| 63 | - | NU | Not Used | - |
| 64 | - | NU | Not Used | - |
| 65 | - | NU | Not Used | - |
| 66 | OUT | C-POW-SW | Capstan Power Switching Signal | H/L |
| 67 | OUT | P-ON-H | Power On Signal at High | H |
| 68 | OUT | DRV-DATA | LED Clock Driver IC Control Data | H/L |
| 69 | OUT | DRV-STB | LED Clock Driver IC Chip Select Signal | H/L |
| 70 | OUT | DRV-CLK | LED Clock Driver IC Control Clock | H/L |
| 71 | OUT | IIC-BUS SCL | $I^2C$ BUS Control Clock | H/L |
| 72 | IN/ OUT | IIC-BUS SDA | $I^2C$ BUS Control Data | H/L |
| 73 | - | NU | Not Used | - |
| 74 | - | NU | Not Used | - |
| 75 | - | NU | Not Used | - |
| 76 | OUT | C-CONT | Capstan Motor Control Signal | PWM |
| 77 | OUT | D-CONT | Drum Motor Control Signal | PWM |
| 78 | OUT | C-F/R | Capstan Motor FWD/REV Control Signal (FWD="L"/ REV="H") | H/L |
| 79 | IN | S-REEL | Supply Reel Rotation Signal | PULSE |
| 80 | IN | T-REEL | Take Up Reel Rotation Signal | PULSE |
| 81 | OUT | LM-FWD/ REV | Loading Motor Control Signal | H/L/ Hi-z |
| 82 | - | NU | Not Used | - |
| 83 | OUT | A-MUTE-H | Audio Mute Control Signal | H |
| 84 | - | NU | Not Used | - |
| 85 | - | NU | Not Used | - |
| 86 | IN | P-DOWN-L | Power Voltage Down Detector Signal | L |
| 87 | IN | C-FG | Capstan Motor Rotation Detection Pulse | PULSE |
| 88 | - | NU | Ground | - |
| 89 | - | NU | Not Used | - |
| 90 | IN | D-PFG | Drum Motor Pulse Generator | PULSE |
| 91 | - | AMPVREF OUT | V-Ref for CTL AMP | - |
| 92 | - | AMPVREF in | V-Ref for CTL AMP | - |
| 93 | - | P80/C | P80/C Terminal | - |
| 94 | IN/ OUT | CTL (-) | Playback/Record Control Signal (-) | H/L |
| 95 | IN/ OUT | CTL (+) | Playback/Record Control Signal (+) | H/L |
| 96 | - | AMPC | CTL AMP Connected Terminal | - |
| 97 | - | CTLAMP out | To Monitor for CTL AMP Output | PULSE |
| 98 | - | AMPVcc | AMPVcc | - |
| 99 | - | AVcc | A/D Converter Power Input/ Standard Voltage Input | - |
| 100 | - | NU | Not Used | - |

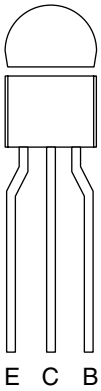
**Notes:**

Abbreviation for Active Level:

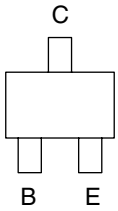
PWM -----Pulse Wide Modulation

A/D--------Analog - Digital Converter

# LEAD IDENTIFICATIONS

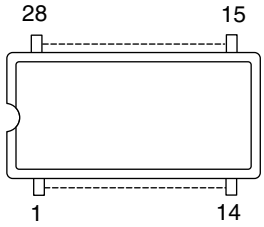



KTA1281Y-AT/P
KTC3205-Y-AT/P
STD1862LY-AT

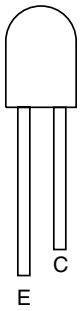



2SA1980S(G,Y)
2SA1980SF(G,Y)
2SC5343S(L,Y)
2SC5343SF(L,Y)
2SC5344SY
KRA102S-RTK/P
KRC102S-RTK/P
KRC103S-RTK/P
KRC3875S-BL-RTK/P
KTA1504S-(GR,Y)-RTK/P
KTC3875S-Y-RTK/P
MMBTRA102SS
MMBTRC102SS
MMBTRC103SS
MMBTSA1504(G,Y)
MMBTSC3875Y
SRA2202S(SOT-23)
SRC1202SF
SRC1203SF

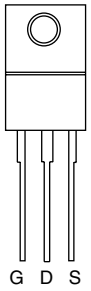
PT6958-FN-TP(L)
SC16458G



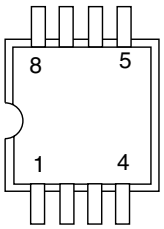

MID-32A22F
PT204-6B-12



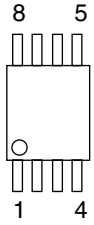

2SK3566(Q M)
2SK3566(Q)



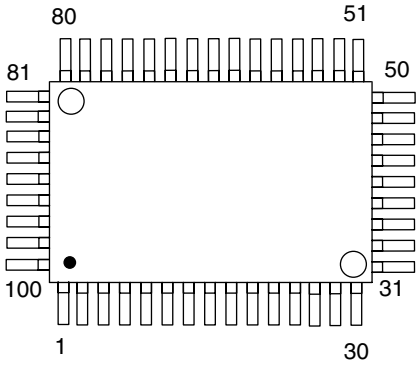

BR24L02F-WE2



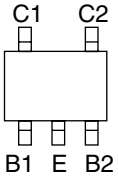

FA5640N/SOP-8/8PIN



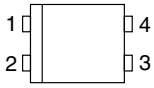

LA71750EM-MPB-E
M3776AMCH-AD6GP




RN1511(TE85R.F)
FMG4A T148

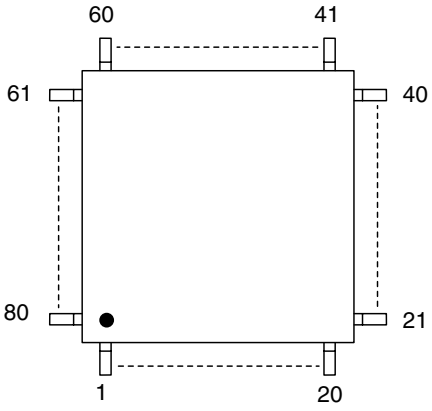



LTV-817B-F
PS2561A-1-V-A(Q,W)
EL817(A,B)

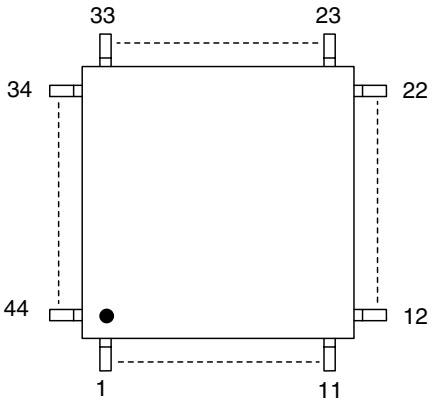



1: Anode
2: Cathode
3: Emitter
4: Collector

LA72648M-MPB-E



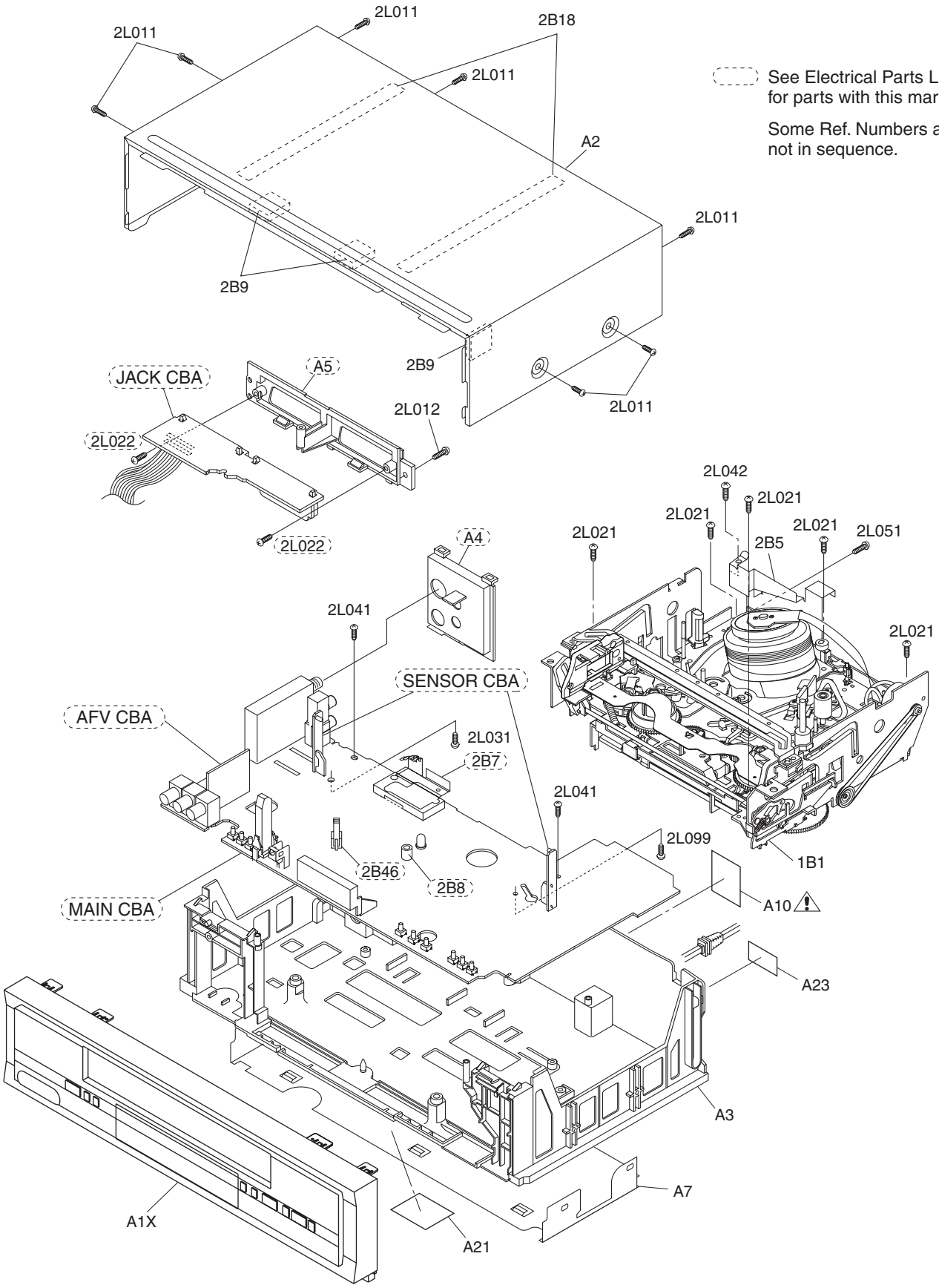

MSP3417G-QG-B8-V3




**Note:**
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Referenc
S: Source
G: Gate
D: Drain

# EXPLODED VIEWS

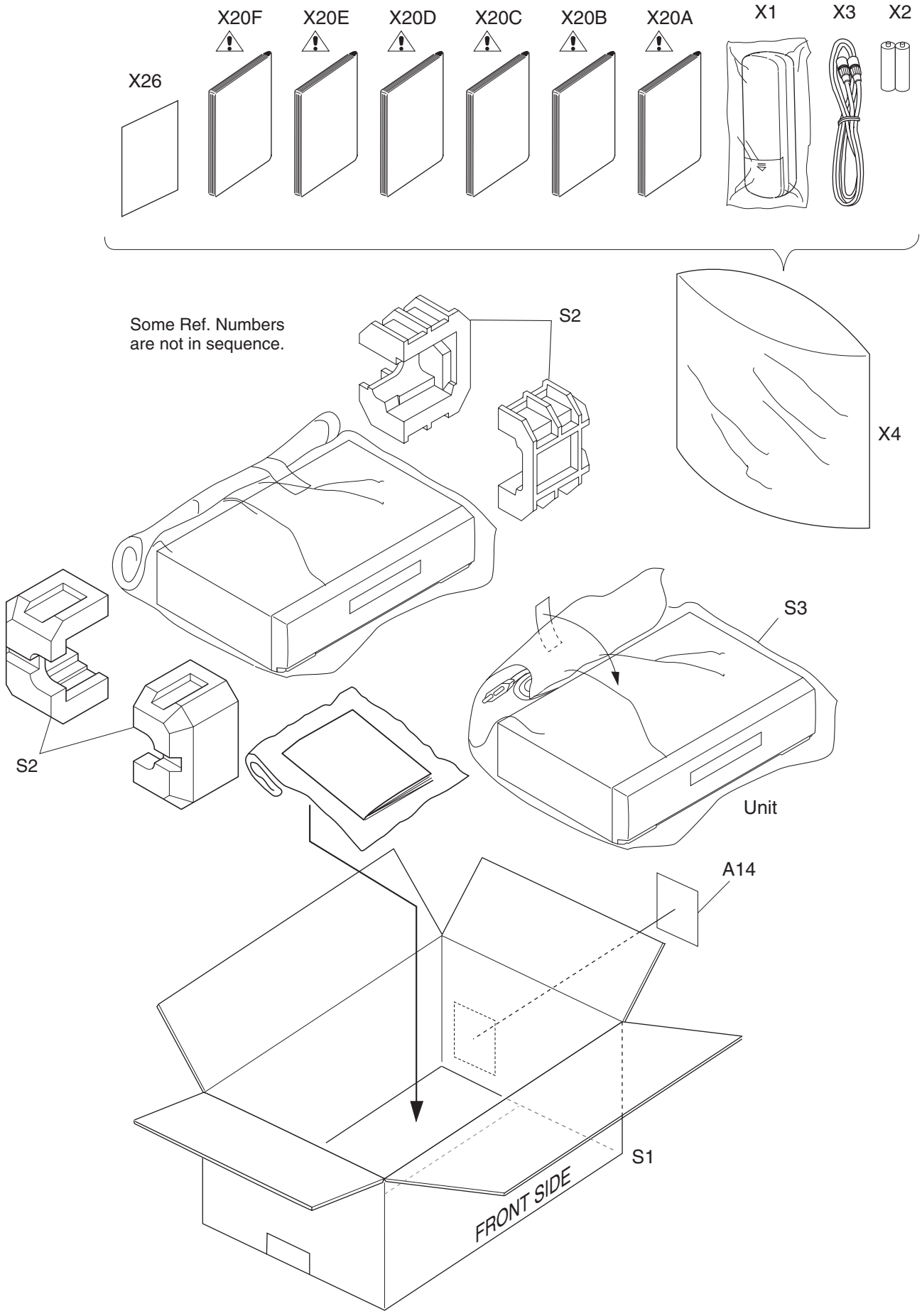
## Cabinet




See Electrical Parts List for parts with this mark.

Some Ref. Numbers are not in sequence.

## Packing


X20F
X20E
X20D
X20C
X20B
X20A
X1
X3
X2
X26
Some Ref. Numbers
are not in sequence.
S2
X4
S3
S2
Unit
A14
S1
FRONT SIDE

# MECHANICAL PARTS LIST

**PRODUCT SAFETY NOTE:** Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTE:** Parts that are not assigned part numbers (---------) are not available.

| Ref. No. | Description | Part No. |
|---|---|---|
| A1X | FRONT ASSEMBLY HM457ED | 1VM232376 |
| A2 | TOP CASE(U27 PAL BLACK) HM214BD | 1VM223071 |
| A3 | CHASSIS(BLACK) HM457ED | 1VM232636 |
| A7 | BOTTOM PANEL HM457ED | 1VM232096 |
| A10⚠ | RATING LABEL HM457ED | --------- |
| A14 | LABEL SERIAL NO. HE240ED or | --------- |
| | BARCODE LABEL HM457ED | --------- |
| A21 | WARNING LABEL HG249ED | --------- |
| A23 | WARNING LABEL 2 HM454ED | --------- |
| 1B1 | DECK ASSEMBLY CZD014/VM25E0 | N25E1FL |
| 2B5 | SHIELD CYLINDER HG470ED | 0VM306638 |
| 2B9 | CUSHION HC460ED | 0VM413251 |
| 2B18 | FIBER TOP CASE HC460ED | 0VM412906 |
| 2L011 | SCREW P-TIGHT 3X10 BIND HEAD+ | GBHP3100 |
| 2L012 | SCREW P-TIGHT 3X10 BIND HEAD+ | GBHP3100 |
| 2L021 | SCREW P-TIGHT M3*10 WASHERHEAD+ | GCJP3100 |
| 2L031 | SCREW S-TIGHT M3X6 BIND HEAD+ | GBJS3060 |
| 2L041 | SCREW P-TIGHT M3X8 BIND HEAD+ | GBJP3080 |
| 2L042 | SCREW P-TIGHT M3X8 BIND HEAD+ | GBJP3080 |
| 2L051 | SCREW M3X5 HEAD+ BIND S-TIGHT | GBJS3050 |
| 2L099 | SCREW P-TIGHT M3X8 BIND HEAD+ | GBCP3080 |
| **PACKING** | | |
| S1 | GIFTBOX CARTON HM457ED | 1VM338141 |
| S2 | STYROFOAM HG470ED | 0VM204516 |
| S3 | UNIT BAG V4010PA | 0VM406453C |
| **ACCESSORIES** | | |
| X1 | REMOTE CONTROL UNIT NA977ED | NA977ED |
| X2 | DRY BATTERY ES-GR6M-C or | XB0M571GLP01 |
| | MANGANESE DRY BATTERY R6UWC/2STA | XB0M311MS003 |
| X3 | RF CORD PAL 1.2M or | WPZ0122LG001 |
| | RF CABLE CC1001020012010 | WPZ0122LW001 |
| X4 | ACCESSORY BAG E5795ED | 0VM416059 |
| X20A⚠ | OWNERS MANUAL(EN) HM457ED | 1VMN31593 |
| X20B⚠ | OWNERS MANUAL(CS) HM457ED | 1VMN31733 |
| X20C⚠ | OWNERS MANUAL(HU) HM457ED | 1VMN31734 |
| X20D⚠ | OWNERS MANUAL(PL) HM457ED | 1VMN31735 |
| X20E⚠ | OWNERS MANUAL(NL) HM457ED | 1VMN31736 |
| X20F⚠ | OWNERS MANUAL(DE) HM457ED | 1VMN31737 |
| X26 | WARRANTY SHEET E3TF0ED | 1VMN29433B |

# ELECTRICAL PARTS LIST

**PRODUCT SAFETY NOTE:** Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTES:**

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

## MCV CBA

| Ref. No. | Description | Part No. |
|---|---|---|
| | MCV CBA<br>Consists of the following: | 1VSA28844 |
| | MAIN CBA (MCV-A )<br>AFV CBA (MCV-B)<br>JACK CBA (MCV-C)<br>SENSOR CBA | ----------<br>----------<br>----------<br>1VSA28864 |

## MAIN CBA

| Ref. No. | Description | Part No. |
|---|---|---|
| | MAIN CBA (MCV-A )<br>Consists of the following: | ---------- |
| | **CAPACITORS** | |
| C001⚠ | CAP METALIZED FILM 0.068μF/275V/K/MPX or | CTA683SER002 |
| ⚠ | ACROSS THE LINE CAP. 0.068μF/250V or | CT2E683DC016 |
| ⚠ | CAP METALIZED FILM 0.068μF/275V/K | CTA683PKR001 |
| C002⚠ | CAP METALIZED FILM 0.068μF/275V/K/MPX or | CTA683SER002 |
| ⚠ | ACROSS THE LINE CAP. 0.068μF/250V or | CT2E683DC016 |
| ⚠ | CAP METALIZED FILM 0.068μF/275V/K | CTA683PKR001 |
| C003⚠ | SAFTY CAP. 2200pF/250V or | CCN2EMA0E222 |
| ⚠ | SAFETY CAP. 2200pF/250V or | CCN2EMP0E222 |
| ⚠ | SAFETY CAP. 2200pF/250V | CA2E222MR049 |
| C004 | ELECTROLYTIC CAP. 33μF/400V M or | CE2HMZXJH330 |
| | CAP. ELECTROLYTIC 33μF/400V M | CA2H330DYG11 |
| C005 | METALIZED FILM CAP. 0.0022μF/400V K or | CT2H222DT034 |
| | POLYESTER FILM CAP. PEN-222K2GL7PLL | CTK222EUR002 |
| C006 | CERAMIC CAP. SL K 56pF/1KV | CCD3AKPSL560 |
| C007 | CERAMIC CAP. B K 150pF/2KV | CCD3DKP0B151 |
| C008 | CAP ELECTROLYTIC 47μF/35V/M or | CA1G470ENE12 |
| | ELECTROLYTIC CAP. 47μF/35V M or | CE1GMASDL470 |
| | ELECTROLYTIC CAP. 47μF/35V/M/105 | CEE47RENW076 |
| C009 | CHIP CERAMIC CAP.(1608) CH J 33pF/50V or | CHD1JJ3CH330 |
| | CHIP CERAMIC CAP.(1608) NP0/J/33pF/50V | CHD3300YF020 |
| C010 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C011 | CHIP CERAMIC CAP.(1608) B K 0.012μF/50V or | CHD1JK30B123 |
| | CHIP CERAMIC CAP.(1608) B K 0.012μF/50V | CHD1230YF069 |
| C012 | CAP ELECTROLYTIC 10μF/50V/M/H7 or | CA1J100ENE10 |
| | ELECTROLYTIC CAP. 10μF/50V M H7 | CE1JMAVSL100 |
| C013 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C014 | CAP ELECTROLYTIC 470μF/35V/M or | CA1G471ENE12 |
| | ELECTROLYTIC CAP. 470μF/35V M or | CE1GMASDL471 |
| | ELECTROLYTIC CAP. 470μF/35V/M/105 | CEE471ENW076 |
| C015 | CAP ELECTROLYTIC 47μF/25V/M/H7 or | CA1E470ENE10 |
| | ELECTROLYTIC CAP. 47μF/25V M H7 | CE1EMAVSL470 |
| C016 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C017 | CAP ELECTROLYTIC 470μF/16V/M/105 or | CA1C471ENE02 |
| | ELECTROLYTIC CAP. 470μF/16V M(105C) or | CE1CMASTH471 |
| | ELECTROLYTIC CAP. 470μF/16V/M/105 | CEC471ENW076 |
| C018 | CAP ELECTROLYTIC 100μF/16V/M or | CA1C101ENE12 |
| | ELECTROLYTIC CAP. 100μF/16V M or | CE1CMASDL101 |
| | ELECTROLYTIC CAP. 100μF/16V/M/105 | CEC101ENW076 |
| C020 | CAP ELECTROLYTIC 1000μF/16V/M or | CA1C102ENE12 |
| | ELECTROLYTIC CAP. 1000μF/16V M or | CE1CMASDL102 |
| | ELECTROLYTIC CAP. 1000μF/16V/M/105 | CEC102ENW076 |
| C021 | CAP ELECTROLYTIC 470μF/10V/M or | CA1A471ENE12 |
| | ELECTROLYTIC CAP. 470μF/10V M or | CE1AMASDL471 |
| | ELECTROLYTIC CAP. 470μF/10V/M/105 | CEB471ENW076 |
| C025 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C026 | CAP ELECTROLYTIC 47μF/16V/M/H7 or | CA1C470ENE10 |
| | ELECTROLYTIC CAP. 47μF/16V M H7 | CE1CMAVSL470 |
| C053 | CAP ELECTROLYTIC 330μF/6.3V/M or | CA0K331ENE12 |
| | ELECTROLYTIC CAP. 330μF/6.3V M or | CE0KMASDL331 |
| | ELECTROLYTIC CAP. 330μF/6.3V/M/105 | CEA331ENW076 |
| C056 | CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or | CHD1JK30B473 |
| | CHIP CERAMIC CAP.(1608) B K 0.047μF/25V or | CHD1EK30B473 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.047μF/50V | CHD4730YF069 |
| C057 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C060 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C061 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C064 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C071 | CAP CHIP CERAMIC (1608) F Z 2.2μF/16V | CHD1CZ30F225 |
| C072 | CAP CHIP CERAMIC (1608) F Z 2.2μF/16V | CHD1CZ30F225 |
| C157 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C158 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V or | CHD1JK30B102 |
| | CHIP CERAMIC CAP.(1608) X7R/K/1000pF/50V | CHD1020YF069 |
| C251 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C252 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V or | CHD1JK30B102 |
| | CHIP CERAMIC CAP.(1608) X7R/K/1000pF/50V | CHD1020YF069 |
| C253 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C254 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C302 | CHIP CERAMIC CAP.(1608) B K 0.022μF/25V or | CHD1EK30B223 |
| | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or | CHD1JK30B223 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.022μF/50V | CHD2230YF069 |
| C303 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C304 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C305 | CHIP CERAMIC CAP. F Z 0.22μF/16V or | CHD1CZ30F224 |
| | CAP CHIP 1608 F Z 0.22μF/16V | CHD2240YF094 |
| C307 | CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or | CHD1JK30B473 |
| | CHIP CERAMIC CAP.(1608) B K 0.047μF/25V or | CHD1EK30B473 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | CHIP CERAMIC CAP.(1608) X7R/K/0.047μF/ 50V | CHD4730YF069 |
| C308 | CHIP CERAMIC CAP.(1608) B K 0.022μF/25V or | CHD1EK30B223 |
| | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or | CHD1JK30B223 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.022μF/ 50V | CHD2230YF069 |
| C309 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C310 | CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or | CHD1JK30B473 |
| | CHIP CERAMIC CAP.(1608) B K 0.047μF/25V or | CHD1EK30B473 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.047μF/ 50V | CHD4730YF069 |
| C311 | CHIP CERAMIC CAP.(1608) B K 0.022μF/25V or | CHD1EK30B223 |
| | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or | CHD1JK30B223 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.022μF/ 50V | CHD2230YF069 |
| C312 | CHIP CERAMIC CAP. B K 8200pF/50V or | CHD1JK30B822 |
| | CHIP CERAMIC CAP.(1608) X7R/K/8200pF/50V | CHD8220YF069 |
| C313 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C314 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C315 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C316 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C317 | CAP ELECTROLYTIC 47μF/6.3V/M/H7 or | CA0K470ENE10 |
| | ELECTROLYTIC CAP. 47μF/6.3V M H7 | CE0KMAVSL470 |
| C318 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C319 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C320 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C321 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C322 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C323 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C324 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V or | CHD1JJ3CH680 |
| | CAP CHIP 1608 NP0/J/68pF/50V | CHD6800YF020 |
| C325 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C326 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V or | CHD1JJ3CH680 |
| | CAP CHIP 1608 NP0/J/68pF/50V | CHD6800YF020 |
| C327 | CAP ELECTROLYTIC 0.47μF/50V/M/H7 or | CA1JR47ENE10 |
| | ELECTROLYTIC CAP. 0.47μF/50V M H7 | CE1JMAVSLR47 |
| C328 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C329 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V or | CHD1JJ3CH680 |
| | CAP CHIP 1608 NP0/J/68pF/50V | CHD6800YF020 |
| C331 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C332 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C333 | CAP ELECTROLYTIC 0.47μF/50V/M/H7 or | CA1JR47ENE10 |
| | ELECTROLYTIC CAP. 0.47μF/50V M H7 | CE1JMAVSLR47 |
| C334 | CAP ELECTROLYTIC 4.7μF/25V/M/H7/NP or | CA1E4R7ENE07 |
| | ELECTROLYTIC CAP. 4.7μF/25V M NP H7 | CP1EMAVSB4R7 |
| C335 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C336 | CHIP CERAMIC CAP.(1608) CH J 1000pF/50V or | CHD1JJ3CH102 |
| | CHIP CERAMIC CAP. CH J 1000pF/25V or | CHD1EJ3CH102 |
| | CAP CHIP 1608 CH J 1000pF/50V | CHD1020YF020 |
| C337 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C338 | CAP ELECTROLYTIC 100μF/6.3V/M/H7 or | CA0K101ENE10 |
| | ELECTROLYTIC CAP. 100μF/6.3V H7 | CE0KMAVSL101 |
| C339 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C340 | CHIP CERAMIC CAP. CH J 120pF/50V or | CHD1JJ3CH121 |
| | CHIP CERAMIC CAP.(1608) NP0/J/120pF/50V | CHD1210YF020 |
| C341 | CHIP CERAMIC CAP. CH J 220pF/50V or | CHD1JJ3CH221 |
| | CHIP CERAMIC CAP.(1608) NP0/J/220pF/50V | CHD2210YF020 |
| C342 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C343 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C345 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V or | CHD1JJ3CH680 |
| | CAP CHIP 1608 NP0/J/68pF/50V | CHD6800YF020 |
| C346 | CHIP CERAMIC CAP.(1608) CH J 68pF/50V or | CHD1JJ3CH680 |
| | CAP CHIP 1608 NP0/J/68pF/50V | CHD6800YF020 |
| C347 | CHIP CERAMIC CAP.(1608) CH D 10pF/50V | CHD1JD3CH100 |
| C351 | CAP ELECTROLYTIC 220μF/6.3V/M/H7 or | CA0K221ENE10 |
| | ELECTROLYTIC CAP. 220μF/6.3V M H7 | CE0KMAVSL221 |
| C352 | CAP ELECTROLYTIC 100μF/16V/M/H7 or | CA1C101ENE10 |
| | ELECTROLYTIC CAP. 100μF/16V M H7 | CE1CMAVSL101 |
| C401 | CAP ELECTROLYTIC 47μF/6.3V/M/H7 or | CA0K470ENE10 |
| | ELECTROLYTIC CAP. 47μF/6.3V M H7 | CE0KMAVSL470 |
| C402 | CAP ELECTROLYTIC 220μF/6.3V/M/H7 or | CA0K221ENE09 |
| | ELECTROLYTIC CAP. 220μF/6.3V M H7 | CE0KMASSL221 |
| C403 | CERAMIC CAP. B K 470pF/100V or | CCD2AKS0B471 |
| | CERAMIC CAP. B K 470pF/500V | CCD2JKS0B471 |
| C404 | CAP POLYESTER FILM 0.018μF/100V J or | CA2A183SER02 |
| | POLYESTER FILM CAP. 0.018μF/100V J | CMB183EUR001 |
| C411 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V or | CHD1JK30B102 |
| | CHIP CERAMIC CAP.(1608) X7R/K/1000pF/50V | CHD1020YF069 |
| C412 | CHIP CERAMIC CAP. B K 1800pF/50V or | CHD1JK30B182 |
| | CAP CHIP 1608 X7R/K/1800pF/50V | CHD1820YF069 |
| C414 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C415 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C416 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C417 | CHIP CERAMIC CAP.(1608) B K 0.022μF/25V or | CHD1EK30B223 |
| | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or | CHD1JK30B223 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.022μF/ 50V | CHD2230YF069 |
| C418 | CHIP CERAMIC CAP.(1608) CH J 33pF/50V or | CHD1JJ3CH330 |
| | CHIP CERAMIC CAP.(1608) NP0/J/33pF/50V | CHD3300YF020 |
| C419 | CHIP CERAMIC CAP.(1608) B K 4700pF/50V or | CHD1JK30B472 |
| | CHIP CERAMIC CAP.(1608) X7R/K/4700pF/50V | CHD4720YF069 |
| C421 | CAP ELECTROLYTIC 33μF/6.3V/M/H7 or | CA0K330ENE10 |
| | ELECTROLYTIC CAP. 33μF/6.3V M H7 | CE0KMAVSL330 |
| C422 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |
| C424 | CAP ELECTROLYTIC 22μF/6.3V/M/H7 or | CA0K220ENE10 |
| | ELECTROLYTIC CAP. 22μF/6.3V M H7 | CE0KMAVSL220 |
| C425 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |

| Ref. No. | Description | Part No. |
|---|---|---|
| C428 | CHIP CERAMIC CAP. CH J 220pF/50V or | CHD1JJ3CH221 |
| | CHIP CERAMIC CAP.(1608) NP0/J/220pF/50V | CHD2210YF020 |
| C430 | CAP ELECTROLYTIC 47μF/6.3V/M/H7 or | CA0K470ENE10 |
| | ELECTROLYTIC CAP. 47μF/6.3V M H7 | CE0KMAVSL470 |
| C451 | CAP ELECTROLYTIC 47μF/16V/M/H7 or | CA1C470ENE10 |
| | ELECTROLYTIC CAP. 47μF/16V M H7 | CE1CMAVSL470 |
| C452 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C453 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C454 | CAP ELECTROLYTIC 22μF/10V/M/H7 or | CA1A220ENE10 |
| | ELECTROLYTIC CAP. 22μF/10V M H7 | CE1AMAVSL220 |
| C455 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C456 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C457 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C458 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |
| C459 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C460 | CHIP CERAMIC CAP.(1608) B K 4700pF/50V or | CHD1JK30B472 |
| | CHIP CERAMIC CAP.(1608) X7R/K/4700pF/50V | CHD4720YF069 |
| C461 | CAP ELECTROLYTIC 22μF/10V/M/H7 or | CA1A220ENE10 |
| | ELECTROLYTIC CAP. 22μF/10V M H7 | CE1AMAVSL220 |
| C462 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C463 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C464 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C465 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C466 | CAP ELECTROLYTIC 220μF/6.3V/M/H7 or | CA0K221ENE10 |
| | ELECTROLYTIC CAP. 220μF/6.3V M H7 | CE0KMAVSL221 |
| C467 | CAP ELECTROLYTIC 22μF/10V/M/H7 or | CA1A220ENE10 |
| | ELECTROLYTIC CAP. 22μF/10V M H7 | CE1AMAVSL220 |
| C468 | CHIP CERAMIC CAP.(1608) B K 4700pF/50V or | CHD1JK30B472 |
| | CHIP CERAMIC CAP.(1608) X7R/K/4700pF/50V | CHD4720YF069 |
| C469 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C470 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |
| C471 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C472 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C473 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C474 | CAP ELECTROLYTIC 22μF/6.3V/M/H7 or | CA0K220ENE10 |
| | ELECTROLYTIC CAP. 22μF/6.3V M H7 | CE0KMAVSL220 |
| C475 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C476 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C477 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C478 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |

| Ref. No. | Description | Part No. |
|---|---|---|
| C479 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |
| C480 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C482 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |
| C483 | CAP ELECTROLYTIC 4.7μF/25V/M/H7 or | CA1E4R7ENE10 |
| | ELECTROLYTIC CAP. 4.7μF/25V M H7 | CE1EMAVSL4R7 |
| C484 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE10 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMAVSL100 |
| C485 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C486 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C489 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C501 | CAP ELECTROLYTIC 220μF/6.3V/M/H7 or | CA0K221ENE10 |
| | ELECTROLYTIC CAP. 220μF/6.3V M H7 | CE0KMAVSL221 |
| C502 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C506 | CAP CERAMIC (AX) 100pF/50V/B/K or | CA1J101TU061 |
| | CERAMIC CAP.(AX) B K 100pF/50V | CCA1JKT0B101 |
| C508 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C510 | CAP ELECTROLYTIC 22μF/10V/M/H7 or | CA1A220ENE10 |
| | ELECTROLYTIC CAP. 22μF/10V M H7 | CE1AMAVSL220 |
| C511 | CAP ELECTROLYTIC 100μF/6.3V/M/H7 or | CA0K101ENE10 |
| | ELECTROLYTIC CAP. 100μF/6.3V H7 | CE0KMAVSL101 |
| C512 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C513 | CHIP CERAMIC CAP. CH J 18pF/50V or | CHD1JJ3CH180 |
| | CAP CHIP 1608 NP0/J/18pF/50V | CHD1800YF020 |
| C514 | CHIP CERAMIC CAP. CH J 20pF/50V or | CHD1JJ3CH200 |
| | CHIP CERAMIC CAP.(1608) NP0/J/20pF/50V | CHD2000YF020 |
| C515 | CHIP CERAMIC CAP. CH J 18pF/50V or | CHD1JJ3CH180 |
| | CAP CHIP 1608 NP0/J/18pF/50V | CHD1800YF020 |
| C516 | CHIP CERAMIC CAP. CH J 18pF/50V or | CHD1JJ3CH180 |
| | CAP CHIP 1608 NP0/J/18pF/50V | CHD1800YF020 |
| C517 | CHIP CERAMIC CAP.(1608) B K 4700pF/50V or | CHD1JK30B472 |
| | CHIP CERAMIC CAP.(1608) X7R/K/4700pF/50V | CHD4720YF069 |
| C518 | CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or | CHD1JK30B473 |
| | CHIP CERAMIC CAP.(1608) B K 0.047μF/25V or | CHD1EK30B473 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.047μF/50V | CHD4730YF069 |
| C519 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C520 | CHIP CERAMIC CAP.(1608) CH J 100pF/50V or | CHD1JJ3CH101 |
| | CHIP CERAMIC CAP. NP0/J/100pF/50V | CHD1010YF020 |
| C521 | CHIP CERAMIC CAP. CH J 560pF/50V or | CHD1JJ3CH561 |
| | CAP CHIP 1608 CH J 560pF/50V | CHD5610YF020 |
| C522 | CAP ELECTROLYTIC 22μF/6.3V/M/H7 or | CA0K220ENE09 |
| | ELECTROLYTIC CAP. 22μF/6.3V M H7 | CE0KMASSL220 |
| C523 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V or | CHD1JK30B102 |
| | CHIP CERAMIC CAP.(1608) X7R/K/1000pF/50V | CHD1020YF069 |
| C524 | CHIP CERAMIC CAP. CH J 330pF/50V or | CHD1JJ3CH331 |
| | CHIP CERAMIC CAP.(1608) CH J 330pF/50V | CHD3310YF020 |
| C526 | CHIP CERAMIC CAP.(1608) B K 4700pF/50V or | CHD1JK30B472 |
| | CHIP CERAMIC CAP.(1608) X7R/K/4700pF/50V | CHD4720YF069 |
| C527 | CAP ELECTROLYTIC 22μF/6.3V/M/H7 or | CA0K220ENE09 |
| | ELECTROLYTIC CAP. 22μF/6.3V M H7 | CE0KMASSL220 |
| C528 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |

| Ref. No. | Description | Part No. |
|---|---|---|
| C530 | CAP CERAMIC (AX) 0.022μF/25V/F/Z or | CA1E223TU055 |
| | CERAMIC CAP.(AX) F Z 0.022μF/25V | CCA1EZTFZ223 |
| C531 | CAP CERAMIC (AX) 0.01μF/16V/B/M | CA1C103TU055 |
| C532 | CAP ELECTROLYTIC 22μF/6.3V/M/H7 or | CA0K220ENE09 |
| | ELECTROLYTIC CAP. 22μF/6.3V M H7 | CE0KMASSL220 |
| C533 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C535 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C538 | CHIP CERAMIC CAP.(1608) B K 0.022μF/25V or | CHD1EK30B223 |
| | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or | CHD1JK30B223 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.022μF/ 50V | CHD2230YF069 |
| C540 | CAP ELECTROLYTIC 470μF/6.3V/M or | CA0K471ENE12 |
| | ELECTROLYTIC CAP. 470μF/6.3V M or | CE0KMASDL471 |
| | ELECTROLYTIC CAP. 470μF/6.3V/M/105 | CEA471ENW076 |
| C561 | CHIP CERAMIC CAP.(1608) B K 0.022μF/25V or | CHD1EK30B223 |
| | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V or | CHD1JK30B223 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.022μF/ 50V | CHD2230YF069 |
| C562 | CAP ELECTROLYTIC 330μF/6.3V/M/H7 or | CA0K331ENE09 |
| | ELECTROLYTIC CAP. 330μF/6.3V M H7 | CE0KMASSL331 |
| C563 | CHIP CERAMIC CAP. F Z 1μF/10V | CHD1AZ30F105 |
| C564 | CHIP CERAMIC CAP.(1608) CH J 100pF/50V or | CHD1JJ3CH101 |
| | CHIP CERAMIC CAP. NP0/J/100pF/50V | CHD1010YF020 |
| C567 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C701 | CHIP CERAMIC CAP.(1608) B K 0.047μF/50V or | CHD1JK30B473 |
| | CHIP CERAMIC CAP.(1608) B K 0.047μF/25V or | CHD1EK30B473 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.047μF/ 50V | CHD4730YF069 |
| C702 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C703 | CAP ELECTROLYTIC 100μF/6.3V/M/H7 or | CA0K101ENE10 |
| | ELECTROLYTIC CAP. 100μF/6.3V H7 | CE0KMAVSL101 |
| C704 | CHIP CERAMIC CAP. B K 1500pF/50V or | CHD1JK30B152 |
| | CAP CHIP 1608 X7R/K/1500pF/50V | CHD1520YF069 |
| C706 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C708 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C713 | CAP ELECTROLYTIC 100μF/6.3V/M/H7 or | CA0K101ENE10 |
| | ELECTROLYTIC CAP. 100μF/6.3V H7 | CE0KMAVSL101 |
| C714 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C715 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C716 | CHIP CERAMIC CAP. F Z 0.22μF/16V or | CHD1CZ30F224 |
| | CAP CHIP 1608 F Z 0.22μF/16V | CHD2240YF094 |
| C717 | CHIP CERAMIC CAP. F Z 0.22μF/16V or | CHD1CZ30F224 |
| | CAP CHIP 1608 F Z 0.22μF/16V | CHD2240YF094 |
| C751 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C752 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C756 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C757 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C851 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V or | CHD1JJ3CH220 |
| | CHIP CERAMIC CAP.(1608) NP0/J/22pF/50V | CHD2200YF020 |
| C852 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V or | CHD1JJ3CH220 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | CHIP CERAMIC CAP.(1608) NP0/J/22pF/50V | CHD2200YF020 |
| C853 | CHIP CERAMIC CAP.(1608) B K 4700pF/50V or | CHD1JK30B472 |
| | CHIP CERAMIC CAP.(1608) X7R/K/4700pF/50V | CHD4720YF069 |
| C854 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C855 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) Y5V/Z/0.1μF/50V | CHD1040YF102 |
| C856 | CHIP CERAMIC CAP. CH J 180pF/50V or | CHD1JJ3CH181 |
| | CAP CHIP 1608 NP0/J/ 180pF/50V | CHD1810YF020 |
| C858 | CHIP CERAMIC CAP. CH J 560pF/50V or | CHD1JJ3CH561 |
| | CAP CHIP 1608 CH J 560pF/50V | CHD5610YF020 |
| C859 | CAP ELECTROLYTIC 47μF/6.3V/M/H7 or | CA0K470ENE10 |
| | ELECTROLYTIC CAP. 47μF/6.3V M H7 | CE0KMAVSL470 |
| C862 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| | **DIODES** | |
| D001 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D002 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D003 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D004 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D005 | RECTIFIER DIODE BA159 or | NDQZ000BA159 |
| | DIODE FAST RECOVERY BA159 | NDLZ00BA159S |
| D006 | RECTIFIER DIODE BA159 or | NDQZ000BA159 |
| | DIODE FAST RECOVERY BA159 | NDLZ00BA159S |
| D008 | SCHOTTKY BARRIER DIODE SB140 or | NDQZ000SB140 |
| | DIODE SCHOTTKY SB140 | NDLZ00SB140S |
| D009 | DIODE ZENER 27BSB-T26 or | NDTB027BST26 |
| | DIODE ZENER HZS27NB2TE-EQ or | QDTBHZS27NB2 |
| | DIODE ZENER DO-34 MTZJ27B or | NDTB00MTZJ27 |
| | ZENER DIODE MTZJT-7727B | QDTB00MTZJ27 |
| D011 | RECTIFIER DIODE FR202-B/P or | NDQZ000FR202 |
| | DIODE FAST FR202 | NDLZ00FR202S |
| D012 | RECTIFIER DIODE FR203-B/P or | NDQZ000FR203 |
| | DIODE FAST FR203 | NDLZ00FR203S |
| D013 | RECTIFIER DIODE FR302 or | NDWZ000FR302 |
| | DIODE FAST RECOVERY FR302 | NDLZ00FR302S |
| D014 | SCHOTTKY BARRIER DIODE SB340 or | NDQZ000SB340 |
| | DIODE SCHOTTKY SB340 | NDLZ00SB340S |
| D018 | DIODE ZENER 24BSB-T26 or | NDTB024BST26 |
| | DIODE ZENER HZS24NB2TE-EQ or | QDTBHZS24NB2 |
| | DIODE ZENER DO-34 MTZJ24B or | NDTB00MTZJ24 |
| | ZENER DIODE MTZJT-7724B | QDTB00MTZJ24 |
| D021 | DIODE ZENER 27BSB-T26 or | NDTB027BST26 |
| | DIODE ZENER HZS27NB2TE-EQ or | QDTBHZS27NB2 |
| | DIODE ZENER DO-34 MTZJ27B or | NDTB00MTZJ27 |
| | ZENER DIODE MTZJT-7727B | QDTB00MTZJ27 |
| D022 | IC SHUNT REGULATOR KIA431-AT/P or | NSZBA0TJY036 |
| | IC SHUNT REGULATOR SL431A-AT or | NSZBA0TAUK01 |
| | IC SHUNT REGULATOR AS431BZTR-E1 | NSZBA0TBCD01 |
| D051 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D052 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D053 | RECTIFIER DIODE 1N4005 or | NDQZ001N4005 |
| | DIODE RECTIFIER 1N4005 or | NDLZ01N4005S |
| | RECTIFIER DIODE 1N4005 | NDWZ001N4005 |
| D056 | DIODE ZENER 5V6BSB-T26 or | NDTB5R6BST26 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | DIODE ZENER HZS5.6NB2TE-EQ or | QDTB0HZS5R6N |
| | DIODE ZENER DO-34 MTZJ5.6B or | NDTB0MTZJ5R6 |
| | ZENER DIODE MTZJT-775.6B | QDTB0MTZJ5R6 |
| D057 | DIODE ZENER 10BSB-T26 or | NDTB010BST26 |
| | DIODE ZENER HZS10NB2TE-EQ or | QDTBHZS10NB1 |
| | DIODE ZENER DO-34 MTZJ10B or | NDTB00MTZJ10 |
| | ZENER DIODE MTZJT-7710B | QDTB00MTZJ10 |
| D058 | DIODE ZENER 16BSC-T26 or | NDTC016BST26 |
| | DIODE ZENER HZS16NB3TE-EQ or | QDTCHZS16NB3 |
| | DIODE ZENER DO-34 MTZJ16C or | NDTC00MTZJ16 |
| | ZENER DIODE MTZJT-7716C | QDTC00MTZJ16 |
| D061 | DIODE SWITCHING SMD 1SS400ST(SOD-523) or | ND1Z1SS400ST |
| | SWITCHING DIODE KDS160E-RTK/P or | ND1ZKDS160EP |
| | SWITCHING DIODE 1SS400 TE61 or | QD1Z001SS400 |
| | DIODE SWITCHING HSC119 TRF -E | QD1Z00HSC119 |
| D062 | DIODE SWITCHING SMD 1SS400ST(SOD-523) or | ND1Z1SS400ST |
| | SWITCHING DIODE KDS160E-RTK/P or | ND1ZKDS160EP |
| | SWITCHING DIODE 1SS400 TE61 or | QD1Z001SS400 |
| | DIODE SWITCHING HSC119 TRF -E | QD1Z00HSC119 |
| D063 | DIODE SWITCHING SMD 1SS400ST(SOD-523) or | ND1Z1SS400ST |
| | SWITCHING DIODE KDS160E-RTK/P or | ND1ZKDS160EP |
| | SWITCHING DIODE 1SS400 TE61 or | QD1Z001SS400 |
| | DIODE SWITCHING HSC119 TRF -E | QD1Z00HSC119 |
| D064 | DIODE SWITCHING SMD 1SS400ST(SOD-523) or | ND1Z1SS400ST |
| | SWITCHING DIODE KDS160E-RTK/P or | ND1ZKDS160EP |
| | SWITCHING DIODE 1SS400 TE61 or | QD1Z001SS400 |
| | DIODE SWITCHING HSC119 TRF -E | QD1Z00HSC119 |
| D065 | DIODE SWITCHING SMD 1SS400ST(SOD-523) or | ND1Z1SS400ST |
| | SWITCHING DIODE KDS160E-RTK/P or | ND1ZKDS160EP |
| | SWITCHING DIODE 1SS400 TE61 or | QD1Z001SS400 |
| | DIODE SWITCHING HSC119 TRF -E | QD1Z00HSC119 |
| D153 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D154 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D155 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D156 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D301 | DIODE SWITCHING 1N4148-F0021 or | NDTZ01N4148F |
| | DIODE SWITCHING HSS4148TE-E or | QDTZ0HSS4148 |
| | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D501 | DIODE SWITCHING 1N4148-F0021 or | NDTZ01N4148F |
| | DIODE SWITCHING HSS4148TE-E or | QDTZ0HSS4148 |
| | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D502 | LED MIE-534A2 or | NPZZM1E534A2 |
| | LED SIR-563ST3F P or | QPQPS1R563ST |
| | LED SIR-563ST3F Q | QPQQS1R563ST |
| D503 | DIODE SWITCHING SMD 1SS400ST(SOD-523) or | ND1Z1SS400ST |
| | SWITCHING DIODE KDS160E-RTK/P or | ND1ZKDS160EP |
| | SWITCHING DIODE 1SS400 TE61 or | QD1Z001SS400 |
| | DIODE SWITCHING HSC119 TRF -E | QD1Z00HSC119 |
| D553 | DIODE SWITCHING 1N4148-F0021 or | NDTZ01N4148F |
| | DIODE SWITCHING HSS4148TE-E or | QDTZ0HSS4148 |
| | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D566 | ZENER DIODE SMD TFZGTR10B | QD1B000TFZ10 |
| D567 | ZENER DIODE SMD TFZGTR10B | QD1B000TFZ10 |
| | **ICS** | |
| IC001⚠ | PHOTOCOUPLER EL817A or | NPEA000EL817 |
| ⚠ | PHOTOCOUPLER EL817B or | NPEB000EL817 |
| ⚠ | PHOTOCOUPLER LTV-817B-F or | NPEB0LTV817F |
| ⚠ | PHOTOCOUPLER PS2561A-1-V-A(Q) or | QPEQPS2561A1 |
| ⚠ | PHOTOCOUPLER PS2561A-1-V-A(W) | QPEWPS2561A1 |
| IC002 | IC SWITCHING FA5640N/SOP-8/8PIN | QSCA0T0FD006 |
| IC301 | IC Y/C/A LA71750EM-MPB-E | QSZBA0RSY020 |
| IC451 | IC HIFI LA72648M-MPB-E | QSZBA0RSY033 |
| IC501 | SYSCON IC M3776AMCH-AD6GP | QSAA0R0HT063 |
| IC503 | IC BR24L02F-WE2 | QSZBA0TRM068 |
| IC561 | IC LED DRIVER PT6958-FN-TP(L) or | NSZBA0TG2008 |
| | LED DRIVER IC SC16458G | NSZBA0TQ0002 |
| | **COILS** | |
| L001 | BEAD CORE B16 RH 3.5X10X1.3 | XL03010XM001 |
| L002 | BEAD CORE B16 RH 3.5X10X1.3 | XL03010XM001 |
| L003⚠ | COIL LINE FILTER ST0703FT20-036 53MH or | LLEG0Z0Y2025 |
| ⚠ | COIL LINE FILTER 8902 | LLEG0Z0KT006 |
| L009 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP or | LLBD00PKV023 |
| | CHOKE COIL 47μH-K | LLBD00PKT001 |
| L010 | RADIAL TYPE CHOKE COIL CW68-470K-841040NP or | LLBD00PKV023 |
| | CHOKE COIL 47μH-K | LLBD00PKT001 |
| L012 | INDUCTOR 100μH-J-5FT | LLARJCSTU101 |
| L251 | INDUCTOR 5.6μH-K-26T | LLAXKATTU5R6 |
| L301 | INDUCTOR(100μH K) LAP02TA101K | LLAXKATTU101 |
| L403 | INDUCTOR 47μH-K-5FT | LLARKBSTU470 |
| L451 | INDUCTOR 47μH-K-5FT | LLARKBSTU470 |
| L452 | INDUCTOR 27μH-K-5FT | LLARKBSTU270 |
| L501 | INDUCTOR(100μH K) LAP02TA101K | LLAXKATTU101 |
| L561 | INDUCTOR 68μH-K-26T | LLAXKATTU680 |
| L562 | INDUCTOR 56μH-K-26T | LLAXKATTU560 |
| L701 | INDUCTOR 47μH-K-26T | LLAXKATTU470 |
| L703 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| L704 | POWER COIL 22μH-K | LLF2200KV014 |
| L851 | INDUCTOR 1.8μH-K-26T | LLAXKATTU1R8 |
| | **TRANSISTORS** | |
| Q001 | FET 2SK3566(Q M) or | QFQZSK3566QM |
| | FET 2SK3566(Q) | QFWZ02SK3566 |
| Q002 | PNP TRANSISTOR SMD MMBTSA1504Y or | NQ1YBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFY or | NQ1Y2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SY or | NQXY2SA1980S |
| | CHIP TRANSISTOR KTA1504S-Y-RTK/P | NQ1YKTA1504S |
| Q051 | NPN TRANSISTOR SMD MMBTSC3875Y or | NQ1YBTSC3875 |
| | NPN TRANSISTOR SMD 2SC5343SFY or | NQ1Y2SC5343S |
| | NPN TRANSISTOR SMD 2SC5343SY or | NQXY2SC5343S |
| | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q052 | NPN TRANSISTOR MMBTRC102SS or | NQ1ZTRC102SS |
| | NPN TRANSISTOR RES-IN SRC1202SF or | NQ1ZSRC1202S |
| | TRANSISTOR KRC102S-RTK/P | NQ1ZKRC102SP |
| Q053 | NPN TRANSISTOR SMD MMBTSC3875Y or | NQ1YBTSC3875 |
| | NPN TRANSISTOR SMD 2SC5343SFY or | NQ1Y2SC5343S |
| | NPN TRANSISTOR SMD 2SC5343SY or | NQXY2SC5343S |
| | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q054 | TRANSISTOR KTC3205-Y-AT/P or | NQSYKTC3205P |
| | NPN TRANSISTOR STD1862LY-AT | NQSYSTD1862L |
| Q055 | PNP TRANSISTOR SMD MMBTSA1504G or | NQ1GBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFG or | NQ1G2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SG or | NQXG2SA1980S |
| | CHIP TRANSISTOR KTA1504S-GR-RTK/P | NQ14KTA1504S |
| Q056 | PNP TRANSISTOR SMD MMBTRA102SS or | NQ1ZTRA102SS |
| | PNP TRANSISTOR DIGITAL SMD SRA2202SF or | NQ1ZSRA2202S |
| | PNP TRANSISTOR DIGITAL SMD SRA2202S(SOT-23) or | NQ1Z0SRA2202 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | PNP TRANSISTOR DIGITAL SMD KRA102S-RTK/P | NQ1ZKRA102SP |
| Q057 | TRANSISTOR KTA1281-Y-AT/P | NQVYKTA1281P |
| Q058 | NPN TRANSISTOR MMBTRC102SS or | NQ1ZTRC102SS |
| | NPN TRANSISTOR RES-IN SRC1202SF or | NQ1ZSRC1202S |
| | TRANSISTOR KRC102S-RTK/P | NQ1ZKRC102SP |
| Q059 | NPN TRANSISTOR MMBTRC102SS or | NQ1ZTRC102SS |
| | NPN TRANSISTOR RES-IN SRC1202SF or | NQ1ZSRC1202S |
| | TRANSISTOR KRC102S-RTK/P | NQ1ZKRC102SP |
| Q061 | PNP TRANSISTOR SMD MMBTSA1504Y or | NQ1YBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFY or | NQ1Y2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SY or | NQXY2SA1980S |
| | CHIP TRANSISTOR KTA1504S-Y-RTK/P | NQ1YKTA1504S |
| Q062 | PNP TRANSISTOR SMD MMBTSA1504Y or | NQ1YBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFY or | NQ1Y2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SY or | NQXY2SA1980S |
| | CHIP TRANSISTOR KTA1504S-Y-RTK/P | NQ1YKTA1504S |
| Q063 | PNP TRANSISTOR SMD MMBTSA1504G or | NQ1GBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFG or | NQ1G2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SG or | NQXG2SA1980S |
| | CHIP TRANSISTOR KTA1504S-GR-RTK/P | NQ14KTA1504S |
| Q064 | NPN TRANSISTOR MMBTRC102SS or | NQ1ZTRC102SS |
| | NPN TRANSISTOR RES-IN SRC1202SF or | NQ1ZSRC1202S |
| | TRANSISTOR KRC102S-RTK/P | NQ1ZKRC102SP |
| Q351 | PNP TRANSISTOR SMD MMBTSA1504Y or | NQ1YBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFY or | NQ1Y2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SY or | NQXY2SA1980S |
| | CHIP TRANSISTOR KTA1504S-Y-RTK/P | NQ1YKTA1504S |
| Q352 | NPN TRANSISTOR SMD MMBTSC3875Y or | NQ1YBTSC3875 |
| | NPN TRANSISTOR SMD 2SC5343SFY or | NQ1Y2SC5343S |
| | NPN TRANSISTOR SMD 2SC5343SY or | NQXY2SC5343S |
| | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q401 | PNP TRANSISTOR SMD MMBTSA1504G or | NQ1GBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFG or | NQ1G2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SG or | NQXG2SA1980S |
| | CHIP TRANSISTOR KTA1504S-GR-RTK/P | NQ14KTA1504S |
| Q402 | NPN TRANSISTOR SMD 2SC5344SY | NQZY2SC5344S |
| Q403 | PNP TRANSISTOR SMD MMBTRA102SS or | NQ1ZTRA102SS |
| | PNP TRANSISTOR DIGITAL SMD SRA2202SF or | NQ1ZSRA2202S |
| | PNP TRANSISTOR DIGITAL SMD SRA2202S(SOT-23) or | NQ1Z0SRA2202 |
| | PNP TRANSISTOR DIGITAL SMD KRA102S-RTK/P | NQ1ZKRA102SP |
| Q405 | CHIP TRANSISTOR RN1511(TE85R.F) or | QQ2Z0RN1511F |
| | CHIP TRANSISTOR FMG4A T148 | QQ2Z000FMG4A |
| Q406 | NPN TRANSISTOR SMD MMBTSC3875Y or | NQ1YBTSC3875 |
| | NPN TRANSISTOR SMD 2SC5343SFY or | NQ1Y2SC5343S |
| | NPN TRANSISTOR SMD 2SC5343SY or | NQXY2SC5343S |
| | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q451 | NPN TRANSISTOR MMBTRC103SS or | NQ1ZTRC103SS |
| | TRANSISTOR SRC1203SF or | NQ1ZSRC1203S |
| | TRANSISTOR KRC103S-RTK/P | NQ1ZKRC103SP |
| Q501 | NPN TRANSISTOR SMD 2SC5343SFL or | NQ1L2SC5343S |
| | NPN TRANSISTOR SMD 2SC5343SL or | NQXL2SC5343S |
| | TRANSISTOR KTC3875S-BL-RTK/P | NQ15KTC3875S |
| Q503 | PHOTO TRANSISTOR PT204-6B-12 or | NPWZT2046B12 |
| | PHOTO TRANSISTOR MID-32A22F | NPWZ1D32A22F |
| Q551 | NPN TRANSISTOR SMD 2SC5343SFL or | NQ1L2SC5343S |
| | NPN TRANSISTOR SMD 2SC5343SL or | NQXL2SC5343S |
| | TRANSISTOR KTC3875S-BL-RTK/P | NQ15KTC3875S |
| Q552 | NPN TRANSISTOR MMBTRC102SS or | NQ1ZTRC102SS |
| | NPN TRANSISTOR RES-IN SRC1202SF or | NQ1ZSRC1202S |
| | TRANSISTOR KRC102S-RTK/P | NQ1ZKRC102SP |
| **RESISTORS** | | |
| R002 | METAL OXIDE FILM RES. 1W J 150k Ω or | RN01154ZU001 |
| | METAL OXIDE FILM RES. 1W J 150k Ω | RN01154KE009 |
| R003 | CHIP RES. 1/4W J 56k Ω or | RRX4JR7Z0563 |
| | RES CHIP 3216 1/4W J 56k Ω | RRX4563YF004 |

| Ref. No. | Description | Part No. |
|---|---|---|
| R004 | CHIP RES. 1/4W J 56k Ω or | RRX4JR7Z0563 |
| | RES CHIP 3216 1/4W J 56k Ω | RRX4563YF004 |
| R005 | CHIP RES. 1/4W J 56k Ω or | RRX4JR7Z0563 |
| | RES CHIP 3216 1/4W J 56k Ω | RRX4563YF004 |
| R006 | METAL OXIDE FILM RES. 1W J 0.75 Ω or | RN01R75ZU001 |
| | METAL OXIDE FILM RES. 1W J 0.75 Ω | RN01R75KE009 |
| R007 | CARBON RES. 1/4W J 56 Ω or | RCX4JATZ0560 |
| | RES CARBON FILM 1/4W J 56 Ω or | RCJ560PAK001 |
| | RES CARBON FILM T 1/4W J 56 Ω | RCX4560T1001 |
| R008 | CHIP RES. 1/10W J 120k Ω or | RRXAJR5Z0124 |
| | RES CHIP 1608 1/10W J 120k Ω | RRXA124YF002 |
| R010 | CEMENT RESISTOR 3W K 1.5 Ω | RW031R5PAK10 |
| R011 | CHIP RES. 1/10W J 75 Ω or | RRXAJR5Z0750 |
| | RES CHIP 1608 1/10W J 75 Ω | RRXA750YF002 |
| R012 | CHIP RES. 1/10W J 10 Ω or | RRXAJR5Z0100 |
| | RES CHIP 1608 1/10W J 10 Ω | RRXA100YF002 |
| R014 | CHIP RES. 1/10W J 2.2k Ω or | RRXAJR5Z0222 |
| | RES CHIP 1608 1/10W J 2.2k Ω | RRXA222YF002 |
| R015 | CHIP RES. 1/10W J 8.2k Ω or | RRXAJR5Z0822 |
| | RES CHIP 1608 1/10W J 8.2k Ω | RRXA822YF002 |
| R016 | CARBON RES. 1/4W J 2.2k Ω or | RCX4JATZ0222 |
| | RES CARBON FILM 1/4W J 2.2k Ω or | RCJ222PAK001 |
| | RES CARBON FILM T 1/4W J 2.2k Ω | RCX4222T1001 |
| R017 | CHIP RES. 1/10W J 220k Ω or | RRXAJR5Z0224 |
| | RES CHIP 1608 1/10W J 220k Ω | RRXA224YF002 |
| R019 | CHIP RES. 1/10W J 820 Ω or | RRXAJR5Z0821 |
| | RES CHIP 1608 1/10W J 820 Ω | RRXA821YF002 |
| R021 | CHIP RES. 1/10W J 1.5k Ω or | RRXAJR5Z0152 |
| | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152YF002 |
| R022 | CHIP RES. 1/10W J 1.5k Ω or | RRXAJR5Z0152 |
| | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152YF002 |
| R023 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R025 | CHIP RES. 1/10W F 300 Ω or | RRXAFR5H3000 |
| | RES CHIP 1608 1/10W F 300 Ω | RTW3000YF002 |
| R026 | CARBON RES. 1/4W J 1.5k Ω or | RCX4JATZ0152 |
| | RES CARBON FILM 1/4W J 1.5k Ω or | RCJ152PAK001 |
| | RES CARBON FILM T 1/4W J 1.5k Ω | RCX4152T1001 |
| R027 | CHIP RES. 1/10W J 470 Ω or | RRXAJR5Z0471 |
| | RES CHIP 1608 1/10W J 470 Ω | RRXA471YF002 |
| R028 | CARBON RES. 1/4W J 1.5k Ω or | RCX4JATZ0152 |
| | RES CARBON FILM 1/4W J 1.5k Ω or | RCJ152PAK001 |
| | RES CARBON FILM T 1/4W J 1.5k Ω | RCX4152T1001 |
| R030 | CHIP RES. 1/10W F 2k Ω | RRXAFR5H2001 |
| R031 | CHIP RES. 1/10W F 2k Ω | RRXAFR5H2001 |
| R051 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R052 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R053 | CHIP RES. 1/10W J 1 Ω or | RRXAJR5Z01R0 |
| | RES CHIP 1608 1/10W J 1 Ω | RRXA1R0YF002 |
| R054 | CHIP RES. 1/10W J 180 Ω or | RRXAJR5Z0181 |
| | RES CHIP 1608 1/10W J 180 Ω | RRXA181YF002 |
| R055 | CHIP RES. 1/10W J 33 Ω or | RRXAJR5Z0330 |
| | RES CHIP 1608 1/10W J 33 Ω | RRXA330YF002 |
| R056 | CHIP RES. 1/10W J 6.8k Ω or | RRXAJR5Z0682 |
| | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682YF002 |
| R057 | CHIP RES. 1/10W J 47k Ω or | RRXAJR5Z0473 |
| | RES CHIP 1608 1/10W J 47k Ω | RRXA473YF002 |
| R058 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R060 | CARBON RES. 1/4W J 2.7k Ω or | RCX4JATZ0272 |
| | RES CARBON FILM 1/4W J 2.7k Ω or | RCJ272PAK001 |
| | RES CARBON FILM T 1/4W J 2.7k Ω | RCX4272T1001 |
| R061 | CHIP RES. 1/10W J 22k Ω or | RRXAJR5Z0223 |
| | RES CHIP 1608 1/10W J 22k Ω | RRXA223YF002 |
| R062 | CARBON RES. 1/4W J 10k Ω or | RCX4JATZ0103 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | RES CARBON FILM 1/4W J 10k Ω or | RCJ103PAK001 |
| | RES CARBON FILM T 1/4W J 10k Ω | RCX4103T1001 |
| R063 | CARBON RES. 1/4W J 1.2k Ω or | RCX4JATZ0122 |
| | RES CARBON FILM 1/4W J 1.2k Ω or | RCJ122PAK001 |
| | RES CARBON FILM T 1/4W J 1.2k Ω | RCX4122T1001 |
| R064 | CARBON RES. 1/4W J 1.2k Ω or | RCX4JATZ0122 |
| | RES CARBON FILM 1/4W J 1.2k Ω or | RCJ122PAK001 |
| | RES CARBON FILM T 1/4W J 1.2k Ω | RCX4122T1001 |
| R065 | METAL OXIDE FILM RES. 2W J 0.27 Ω or | RN02JZLZ0R27 |
| | METALOXIDE RES 2W J 0.27 Ω | RN02JZQZ0R27 |
| R066 | CHIP RES. 1/10W J 47k Ω or | RRXAJR5Z0473 |
| | RES CHIP 1608 1/10W J 47k Ω | RRXA473YF002 |
| R067 | CARBON RES. 1/4W J 680 Ω or | RCX4JATZ0681 |
| | RES CARBON FILM 1/4W J 680 Ω or | RCJ681PAK001 |
| | RES CARBON FILM T 1/4W J 680 Ω | RCX4681T1001 |
| R068 | CARBON RES. 1/4W J 680 Ω or | RCX4JATZ0681 |
| | RES CARBON FILM 1/4W J 680 Ω or | RCJ681PAK001 |
| | RES CARBON FILM T 1/4W J 680 Ω | RCX4681T1001 |
| R070 | CHIP FUSE FCC32321ADTP | PDDFTC0KE321 |
| R071 | CARBON RES. 1/4W J 3.3k Ω or | RCX4JATZ0332 |
| | RES CARBON FILM 1/4W J 3.3k Ω or | RCJ332PAK001 |
| | RES CARBON FILM T 1/4W J 3.3k Ω | RCX4332T1001 |
| R072 | CARBON RES. 1/4W J 3.3k Ω or | RCX4JATZ0332 |
| | RES CARBON FILM 1/4W J 3.3k Ω or | RCJ332PAK001 |
| | RES CARBON FILM T 1/4W J 3.3k Ω | RCX4332T1001 |
| R074 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R075 | CHIP RES. 1/10W J 47k Ω or | RRXAJR5Z0473 |
| | RES CHIP 1608 1/10W J 47k Ω | RRXA473YF002 |
| R076 | CHIP RES. 1/10W J 6.8k Ω or | RRXAJR5Z0682 |
| | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682YF002 |
| R077 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R078 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R079 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R081 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R082 | CHIP RES. 1/10W J 22k Ω or | RRXAJR5Z0223 |
| | RES CHIP 1608 1/10W J 22k Ω | RRXA223YF002 |
| R251 | CHIP RES. 1/10W J 2.2k Ω or | RRXAJR5Z0222 |
| | RES CHIP 1608 1/10W J 2.2k Ω | RRXA222YF002 |
| R252 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R301 | CHIP RES. 1/10W J 1.2k Ω or | RRXAJR5Z0122 |
| | RES CHIP 1608 1/10W J 1.2k Ω | RRXA122YF002 |
| R302 | CHIP RES. 1/10W J 8.2k Ω or | RRXAJR5Z0822 |
| | RES CHIP 1608 1/10W J 8.2k Ω | RRXA822YF002 |
| R303 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R304 | CHIP RES. 1/10W J 3.9k Ω or | RRXAJR5Z0392 |
| | RES CHIP 1608 1/10W J 3.9k Ω | RRXA392YF002 |
| R305 | CHIP RES. 1/10W J 3.9k Ω or | RRXAJR5Z0392 |
| | RES CHIP 1608 1/10W J 3.9k Ω | RRXA392YF002 |
| R307 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R308 | CHIP RES. 1/10W J 6.8k Ω or | RRXAJR5Z0682 |
| | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682YF002 |
| R309 | CHIP RES. 1/10W J 100 Ω or | RRXAJR5Z0101 |
| | RES CHIP 1608 1/10W J 100 Ω | RRXA101YF002 |
| R310 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R311 | CHIP RES. 1/10W J 18k Ω or | RRXAJR5Z0183 |
| | RES CHIP 1608 1/10W J 18k Ω | RRXA183YF002 |
| R312 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R313 | CHIP RES. 1/10W J 18k Ω or | RRXAJR5Z0183 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | RES CHIP 1608 1/10W J 18k Ω | RRXA183YF002 |
| R315 | CHIP RES. 1/10W J 2.2k Ω or | RRXAJR5Z0222 |
| | RES CHIP 1608 1/10W J 2.2k Ω | RRXA222YF002 |
| R316 | CHIP RES. 1/10W J 6.8k Ω or | RRXAJR5Z0682 |
| | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682YF002 |
| R317 | CHIP RES. 1/10W J 1.2k Ω or | RRXAJR5Z0122 |
| | RES CHIP 1608 1/10W J 1.2k Ω | RRXA122YF002 |
| R318 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R319 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R320 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R321 | CARBON RES. 1/4W J 33 Ω or | RCX4JATZ0330 |
| | RES CARBON FILM 1/4W J 33 Ω or | RCJ330PAK001 |
| | RES CARBON FILM T 1/4W J 33 Ω | RCX4330T1001 |
| R322 | CHIP RES. 1/10W J 75 Ω or | RRXAJR5Z0750 |
| | RES CHIP 1608 1/10W J 75 Ω | RRXA750YF002 |
| R323 | CARBON RES. 1/4W J 33 Ω or | RCX4JATZ0330 |
| | RES CARBON FILM 1/4W J 33 Ω or | RCJ330PAK001 |
| | RES CARBON FILM T 1/4W J 33 Ω | RCX4330T1001 |
| R324 | CHIP RES. 1/10W J 47k Ω or | RRXAJR5Z0473 |
| | RES CHIP 1608 1/10W J 47k Ω | RRXA473YF002 |
| R325 | CHIP RES. 1/10W J 33 Ω or | RRXAJR5Z0330 |
| | RES CHIP 1608 1/10W J 33 Ω | RRXA330YF002 |
| R326 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R330 | CHIP RES. 1/10W J 5.6M Ω or | RRXAJR5Z0565 |
| | RES CHIP 1608 1/10W J 5.6M Ω | RRXA565YF002 |
| R331 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R333 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R334 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R351 | CHIP RES. 1/10W J 180 Ω or | RRXAJR5Z0181 |
| | RES CHIP 1608 1/10W J 180 Ω | RRXA181YF002 |
| R352 | CHIP RES. 1/10W J 150 Ω or | RRXAJR5Z0151 |
| | RES CHIP 1608 1/10W J 150 Ω | RRXA151YF002 |
| R355 | CARBON RES. 1/4W J 680 Ω or | RCX4JATZ0681 |
| | RES CARBON FILM 1/4W J 680 Ω or | RCJ681PAK001 |
| | RES CARBON FILM T 1/4W J 680 Ω | RCX4681T1001 |
| R357 | CHIP RES. 1/10W J 220 Ω or | RRXAJR5Z0221 |
| | RES CHIP 1608 1/10W J 220 Ω | RRXA221YF002 |
| R358 | CHIP RES. 1/10W J 1.5k Ω or | RRXAJR5Z0152 |
| | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152YF002 |
| R360 | CHIP RES. 1/10W J 1.8k Ω or | RRXAJR5Z0182 |
| | RES CHIP 1608 1/10W J 1.8k Ω | RRXA182YF002 |
| R361 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R401 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R402 | CHIP RES. 1/10W J 22k Ω or | RRXAJR5Z0223 |
| | RES CHIP 1608 1/10W J 22k Ω | RRXA223YF002 |
| R403 | CHIP RES. 1/10W J 47k Ω or | RRXAJR5Z0473 |
| | RES CHIP 1608 1/10W J 47k Ω | RRXA473YF002 |
| R404 | CARBON RES. 1/4W J 100 Ω or | RCX4JATZ0101 |
| | RES CARBON FILM 1/4W J 100 Ω or | RCJ101PAK001 |
| | RES CARBON FILM T 1/4W J 100 Ω | RCX4101T1001 |
| R407 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R408 | CHIP RES. 1/10W J 12k Ω or | RRXAJR5Z0123 |
| | RES CHIP 1608 1/10W J 12k Ω | RRXA123YF002 |
| R409 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R411 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R412 | CHIP RES. 1/10W J 27k Ω or | RRXAJR5Z0273 |
| | RES CHIP 1608 1/10W J 27k Ω | RRXA273YF002 |
| R413 | CHIP RES. 1/10W J 330k Ω or | RRXAJR5Z0334 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | RES CHIP 1608 1/10W J 330k Ω | RRXA334YF002 |
| R414 | CHIP RES. 1/10W J 120 Ω or | RRXAJR5Z0121 |
| | RES CHIP 1608 1/10W J 120 Ω | RRXA121YF002 |
| R415 | CHIP RES. 1/10W J 12k Ω or | RRXAJR5Z0123 |
| | RES CHIP 1608 1/10W J 12k Ω | RRXA123YF002 |
| R416 | CHIP RES. 1/10W J 1.8k Ω or | RRXAJR5Z0182 |
| | RES CHIP 1608 1/10W J 1.8k Ω | RRXA182YF002 |
| R417 | CHIP RES. 1/10W J 560 Ω or | RRXAJR5Z0561 |
| | RES CHIP 1608 1/10W J 560 Ω | RRXA561YF002 |
| R418 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R421 | CHIP RES. 1/10W J 12k Ω or | RRXAJR5Z0123 |
| | RES CHIP 1608 1/10W J 12k Ω | RRXA123YF002 |
| R422 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R425 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R426 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R429 | CHIP RES. 1/10W J 2.2k Ω or | RRXAJR5Z0222 |
| | RES CHIP 1608 1/10W J 2.2k Ω | RRXA222YF002 |
| R430 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R431 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R451 | CHIP RES. 1/10W J 8.2k Ω or | RRXAJR5Z0822 |
| | RES CHIP 1608 1/10W J 8.2k Ω | RRXA822YF002 |
| R452 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R453 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R454 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R455 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R456 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R457 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R458 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R459 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R460 | CHIP RES. 1/10W J 470 Ω or | RRXAJR5Z0471 |
| | RES CHIP 1608 1/10W J 470 Ω | RRXA471YF002 |
| R461 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R462 | CHIP RES. 1/10W J 2.7k Ω or | RRXAJR5Z0272 |
| | RES CHIP 1608 1/10W J 2.7k Ω | RRXA272YF002 |
| R463 | CHIP RES. 1/10W J 8.2k Ω or | RRXAJR5Z0822 |
| | RES CHIP 1608 1/10W J 8.2k Ω | RRXA822YF002 |
| R464 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R465 | CHIP RES. 1/10W J 8.2k Ω or | RRXAJR5Z0822 |
| | RES CHIP 1608 1/10W J 8.2k Ω | RRXA822YF002 |
| R466 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R467 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R468 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R469 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R470 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R471 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R472 | CHIP RES. 1/10W J 150 Ω or | RRXAJR5Z0151 |
| | RES CHIP 1608 1/10W J 150 Ω | RRXA151YF002 |
| R473 | CHIP RES. 1/10W J 150 Ω or | RRXAJR5Z0151 |
| | RES CHIP 1608 1/10W J 150 Ω | RRXA151YF002 |
| R474 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |

| Ref. No. | Description | Part No. |
|---|---|---|
| R476 | CHIP RES. 1/10W J 33 Ω or | RRXAJR5Z0330 |
| | RES CHIP 1608 1/10W J 33 Ω | RRXA330YF002 |
| R477 | CHIP RES. 1/10W J 33 Ω or | RRXAJR5Z0330 |
| | RES CHIP 1608 1/10W J 33 Ω | RRXA330YF002 |
| R478 | CHIP RES. 1/10W J 22k Ω or | RRXAJR5Z0223 |
| | RES CHIP 1608 1/10W J 22k Ω | RRXA223YF002 |
| R479 | CHIP RES. 1/10W J 6.8k Ω or | RRXAJR5Z0682 |
| | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682YF002 |
| R480 | CHIP RES. 1/10W J 100 Ω or | RRXAJR5Z0101 |
| | RES CHIP 1608 1/10W J 100 Ω | RRXA101YF002 |
| R481 | CHIP RES. 1/10W J 100 Ω or | RRXAJR5Z0101 |
| | RES CHIP 1608 1/10W J 100 Ω | RRXA101YF002 |
| R502 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R503 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R504 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R505 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R506 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R509 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R510 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R511 | CHIP RES. 1/10W J 100k Ω or | RRXAJR5Z0104 |
| | RES CHIP 1608 1/10W J 100k Ω | RRXA104YF002 |
| R513 | CHIP RES. 1/10W J 2.2k Ω or | RRXAJR5Z0222 |
| | RES CHIP 1608 1/10W J 2.2k Ω | RRXA222YF002 |
| R514 | CHIP RES. 1/10W J 820 Ω or | RRXAJR5Z0821 |
| | RES CHIP 1608 1/10W J 820 Ω | RRXA821YF002 |
| R516 | CHIP RES. 1/10W J 330k Ω or | RRXAJR5Z0334 |
| | RES CHIP 1608 1/10W J 330k Ω | RRXA334YF002 |
| R517 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R518 | CHIP RES. 1/10W J 470 Ω or | RRXAJR5Z0471 |
| | RES CHIP 1608 1/10W J 470 Ω | RRXA471YF002 |
| R520 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R521 | CHIP RES. 1/10W J 220k Ω or | RRXAJR5Z0224 |
| | RES CHIP 1608 1/10W J 220k Ω | RRXA224YF002 |
| R522 | CHIP RES. 1/10W J 39k Ω or | RRXAJR5Z0393 |
| | RES CHIP 1608 1/10W J 39k Ω | RRXA393YF002 |
| R523 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R524 | CHIP RES. 1/10W J 5.6k Ω or | RRXAJR5Z0562 |
| | RES CHIP 1608 1/10W J 5.6k Ω | RRXA562YF002 |
| R525 | CHIP RES. 1/10W J 1.5k Ω or | RRXAJR5Z0152 |
| | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152YF002 |
| R526 | CHIP RES. 1/10W J 1.8k Ω or | RRXAJR5Z0182 |
| | RES CHIP 1608 1/10W J 1.8k Ω | RRXA182YF002 |
| R527 | CHIP RES. 1/10W J 680 Ω or | RRXAJR5Z0681 |
| | RES CHIP 1608 1/10W J 680 Ω | RRXA681YF002 |
| R528 | CHIP RES. 1/10W J 18k Ω or | RRXAJR5Z0183 |
| | RES CHIP 1608 1/10W J 18k Ω | RRXA183YF002 |
| R529 | CARBON RES. 1/4W J 270 Ω or | RCX4JATZ0271 |
| | RES CARBON FILM 1/4W J 270 Ω or | RCJ271PAK001 |
| | RES CARBON FILM T 1/4W J 270 Ω | RCX4271T1001 |
| R530 | CHIP RES. 1/10W J 180 Ω or | RRXAJR5Z0181 |
| | RES CHIP 1608 1/10W J 180 Ω | RRXA181YF002 |
| R531 | CHIP RES. 1/10W J 68k Ω or | RRXAJR5Z0683 |
| | RES CHIP 1608 1/10W J 68k Ω | RRXA683YF002 |
| R532 | CHIP RES. 1/10W J 22k Ω or | RRXAJR5Z0223 |
| | RES CHIP 1608 1/10W J 22k Ω | RRXA223YF002 |
| R533 | CHIP RES. 1/10W J 33k Ω or | RRXAJR5Z0333 |
| | RES CHIP 1608 1/10W J 33k Ω | RRXA333YF002 |
| R534 | CARBON RES. 1/4W G 3.6k Ω or | RCX4GATZ0362 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | RES CARBON FILM 1/4W G 3.6k Ω or | RCG362PAK001 |
| | RES CARBON FILM T 1/4W G 3.6k Ω | RCX4362T1002 |
| R535 | CARBON RES. 1/4W G 10k Ω or | RCX4GATZ0103 |
| | RES CARBON FILM 1/4W G 10k Ω or | RCG103PAK001 |
| | RES CARBON FILM T 1/4W G 10k Ω | RCX4103T1002 |
| R536 | CARBON RES. 1/4W G 470 Ω or | RCX4GATZ0471 |
| | RES CARBON FILM 1/4W G 470 Ω or | RCG471PAK001 |
| | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R537 | CARBON RES. 1/4W G 22k Ω or | RCX4GATZ0223 |
| | RES CARBON FILM 1/4W G 22k Ω or | RCG223PAK001 |
| | RES CARBON FILM T 1/4W G 22k Ω | RCX4223T1002 |
| R538 | CARBON RES. 1/4W G 1.5k Ω or | RCX4GATZ0152 |
| | RES CARBON FILM 1/4W G 1.5k Ω or | RCG152PAK001 |
| | RES CARBON FILM T 1/4W G 1.5k Ω | RCX4152T1002 |
| R539 | CARBON RES. 1/4W G 4.7k Ω or | RCX4GATZ0472 |
| | RES CARBON FILM 1/4W G 4.7k Ω or | RCG472PAK001 |
| | RES CARBON FILM T 1/4W G 4.7k Ω | RCX4472T1002 |
| R540 | CHIP RES. 1/10W J 390k Ω or | RRXAJR5Z0394 |
| | RES CHIP 1608 1/10W J 390k Ω | RRXA394YF002 |
| R541 | CHIP RES. 1/10W J 390k Ω or | RRXAJR5Z0394 |
| | RES CHIP 1608 1/10W J 390k Ω | RRXA394YF002 |
| R542 | CHIP RES. 1/10W J 1.8k Ω or | RRXAJR5Z0182 |
| | RES CHIP 1608 1/10W J 1.8k Ω | RRXA182YF002 |
| R543 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R544 | CHIP RES. 1/10W J 2.7k Ω or | RRXAJR5Z0272 |
| | RES CHIP 1608 1/10W J 2.7k Ω | RRXA272YF002 |
| R545 | CHIP RES. 1/10W J 2.2k Ω or | RRXAJR5Z0222 |
| | RES CHIP 1608 1/10W J 2.2k Ω | RRXA222YF002 |
| R546 | CHIP RES. 1/10W J 12k Ω or | RRXAJR5Z0123 |
| | RES CHIP 1608 1/10W J 12k Ω | RRXA123YF002 |
| R547 | CHIP RES. 1/10W J 1.8k Ω or | RRXAJR5Z0182 |
| | RES CHIP 1608 1/10W J 1.8k Ω | RRXA182YF002 |
| R548 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R549 | CHIP RES. 1/10W J 1.2k Ω or | RRXAJR5Z0122 |
| | RES CHIP 1608 1/10W J 1.2k Ω | RRXA122YF002 |
| R551 | CHIP RES. 1/10W J 100 Ω or | RRXAJR5Z0101 |
| | RES CHIP 1608 1/10W J 100 Ω | RRXA101YF002 |
| R552 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R553 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R554 | CHIP FUSE FCC32321ADTP | PDDFTC0KE321 |
| R555 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R558 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R566 | CHIP RES. 1/10W J 56k Ω or | RRXAJR5Z0563 |
| | RES CHIP 1608 1/10W J 56k Ω | RRXA563YF002 |
| R571 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R601 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R604 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R605 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R611 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R613 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R702 | CARBON RES. 1/4W J 1k Ω or | RCX4JATZ0102 |
| | RES CARBON FILM 1/4W J 1.0k Ω or | RCJ102PAK001 |
| | RES CARBON FILM T 1/4W J 1.0k Ω | RCX4102T1001 |
| R703 | CARBON RES. 1/4W J 1k Ω or | RCX4JATZ0102 |
| | RES CARBON FILM 1/4W J 1.0k Ω or | RCJ102PAK001 |
| | RES CARBON FILM T 1/4W J 1.0k Ω | RCX4102T1001 |

| Ref. No. | Description | Part No. |
|---|---|---|
| R706 | CARBON RES. 1/4W J 1k Ω or | RCX4JATZ0102 |
| | RES CARBON FILM 1/4W J 1.0k Ω or | RCJ102PAK001 |
| | RES CARBON FILM T 1/4W J 1.0k Ω | RCX4102T1001 |
| R707 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R751 | CHIP RES. 1/10W J 820 Ω or | RRXAJR5Z0821 |
| | RES CHIP 1608 1/10W J 820 Ω | RRXA821YF002 |
| R752 | CHIP RES. 1/10W J 820 Ω or | RRXAJR5Z0821 |
| | RES CHIP 1608 1/10W J 820 Ω | RRXA821YF002 |
| R756 | CHIP RES.(1608) 1/10W 0 Ω | RRXAZR5Z0000 |
| R757 | CHIP RES. 1/10W J 75 Ω or | RRXAJR5Z0750 |
| | RES CHIP 1608 1/10W J 75 Ω | RRXA750YF002 |
| R758 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R759 | CHIP RES. 1/10W J 4.7k Ω or | RRXAJR5Z0472 |
| | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472YF002 |
| R851 | CHIP RES. 1/10W J 1.5k Ω or | RRXAJR5Z0152 |
| | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152YF002 |
| R852 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R853 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| | **SWITCHES** | |
| SW501 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW502 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW503 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW504 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW505 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW506 | LEAF SWITCH MXS01830MVP0 | SSC0101MCE03 |
| SW507 | SWITCH ROTARY SSS-53MD-1 | SSR0106KB004 |
| SW509 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW510 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW511 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| SW512 | TACT SWITCH KSM0614B or | SST0101HH013 |
| | TACT SWITCH SKQSAF001A or | SST0101AL041 |
| | TACT SWITCH TC-1104(H=9.5) | SST0101DNG01 |
| | **MISCELLANEOUS** | |
| 2B7 | SHIELD ASSEMBLY HG470ED | 0VM416072 |
| 2B8 | BUSH LED(F) H3700UD | 0VM409508 |
| 2B46 | ROHM HOLDER H7770JD | 0VM304573 |
| AC001⚠ | AC CORD PE8B2CG980A-057 or | WAE0172LW006 |
| ⚠ | AC CORD WITH A GND WIRE L0A0280-040 or | WAE172LTE005 |
| ⚠ | AC CORD WITH A GND WIRE AS1105089 | WAE172ZHN008 |
| A4 | JACK BOARD HM457ED | 1VM232156 |
| BC001 | BEAD INDUCTOR B29 RID 2.3X7.5X7.5T or | LLEF0S0XM002 |
| | BEAD INDUCTOR FBR07HA121TB-00 | LLBF00ZTU021 |
| BC002 | BEAD INDUCTOR B29 RID 2.3X7.5X7.5T or | LLEF0S0XM002 |
| | BEAD INDUCTOR FBR07HA121TB-00 | LLBF00ZTU021 |
| F002⚠ | TIME LAG FUSE SLT250V1.6A or | PDGSLB0NG162 |
| ⚠ | FUSE TIME RAG 2010T1.6A1 or | PDG21B0W3162 |
| ⚠ | FUSE TIME LAG SCT1.6A | PDGACB08S162 |
| FP562 | LED DISPLAY G0612M | NPWZ00G0612M |
| J902 | BEAD CORE B16 RH 3.5X10X1.3 | XL03010XM001 |

| Ref. No. | Description | Part No. |
|---|---|---|
| JK751 | RCA JACK 2P MSP-282V-12 NILF(B11 | JXRL020LY121 |
| JK756 | RCA JACK MSP-281V42-B(B110) | JXRL010LY142 |
| JK757 | RCA JACK MSP-281V40-B(B110) | JXRL010LY138 |
| JK758 | RCA JACK 1P MSP-281V31-A(B110) | JYRL010LY027 |
| JW001 | FLAT CABLE 11P AWG26#2651/P1.25/150 | WX1HC460-002 |
| JW002 | FLAT CABLE 11P AWG26#2651/P1.25/150 | WX1HC460-002 |
| PS503 | PHOTO INTERRUPTER RPI-302C70 | QPWZP1302C70 |
| RS501 | SENSOR REMOTE RECEIVER KSM-602LQ2S or | USESJRSKK054 |
| | REMOTE RECEIVER PIC-37042LQ or | USESJRSKK038 |
| | REMOTE RECEIVER MIM-93M9DKF or | USESJRSUNT03 |
| | SENSOR REMOTE RECEIVER MIM-5379K9F | USESJRSUNT10 |
| T001⚠ | TRANS POWER BCK-28-9867 or | LTT2PE0XB075 |
| ⚠ | TRANS POWER 11739 or | LTT2PE0KT082 |
| ⚠ | TRANS POWER BCK-28EC | LTT2PEMEK037 |
| TP301 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| TP501 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| TP502 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| TP506 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| TP507 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| TU701 | TUNER UNIT TDAG1-A05A | UTNDVT0AL002 |
| VR501 | CARBON P.O.T. VZ067TL1 B104 PB(F) or | VRCB104HH014 |
| | VOLUME ROTARY CARBON VZ066L1 B104 PB(F) | VRCB104HH017 |
| X301 | XTAL 4.433619MHz or | FXC445LLN004 |
| | XTAL 1K*044334EE or | FXC445LDS002 |
| | QUARTZ CRYSTAL 4.433619MHz | FXC445LCHE01 |
| X501 | XTAL 12MHz 12.000MHz or | FXD126LDS002 |
| | QUARTS CRYSTAL 12.000000MHz or | FXD126LCHE01 |
| | QUARTZ CRYSTAL 12.000MHz 910A012000-1230300 | FHX126XGE003 |
| X502 | RESONATOR XTAL 32.768kHz QTF38-32.768K125P15L or | FXC323LQUA03 |
| | XTAL DT-26 32.768kHz | FXC323LDS003 |

## AFV CBA

| Ref. No. | Description | Part No. |
|---|---|---|
| | AFV CBA (MCV-B)<br>Consists of the following: | --------- |
| | **CAPACITORS** | |
| C1001 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V | CHD1EZ30F104 |
| C1004 | CHIP CERAMIC CAP. CH J 56pF/50V or | CHD1JJ3CH560 |
| | CAP CHIP 1608 NP0/J/56pF/50V | CHD5600YF020 |
| C1005 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V or | CHD1JJ3CH220 |
| | CHIP CERAMIC CAP.(1608) NP0/J/22pF/50V | CHD2200YF020 |
| C1006 | CHIP CERAMIC CAP. CH J 56pF/50V or | CHD1JJ3CH560 |
| | CAP CHIP 1608 NP0/J/56pF/50V | CHD5600YF020 |
| C1007 | CHIP CERAMIC CAP. CJ C 3pF/50V or | CHD1JC3CJ3R0 |
| | CHIP CERAMIC CAP. CH C 3pF/50V | CHD1JC3CH3R0 |
| C1008 | CHIP CERAMIC CAP. CJ C 3pF/50V or | CHD1JC3CJ3R0 |
| | CHIP CERAMIC CAP. CH C 3pF/50V | CHD1JC3CH3R0 |
| C1011 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C1012 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE09 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMASSL100 |
| C1013 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C1014 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V or | CHD1JK30B103 |
| | CHIP CERAMIC CAP.(1608) X7R/K/0.01μF/50V | CHD1030YF069 |
| C1015 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE09 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMASSL100 |
| C1016 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE09 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMASSL100 |
| C1017 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V | CHD1EZ30F104 |
| C1019 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V | CHD1EZ30F104 |
| C1020 | CAP ELECTROLYTIC 3.3μF/50V/M/H7 or | CA1J3R3ENE09 |
| | ELECTROLYTIC CAP. 3.3μF/50V M H7 | CE1JMASSL3R3 |
| C1021 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V or | CHD1JZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V | CHD1EZ30F104 |
| C1022 | CAP ELECTROLYTIC 10μF/16V/M/H7 or | CA1C100ENE09 |
| | ELECTROLYTIC CAP. 10μF/16V M H7 | CE1CMASSL100 |
| C1024 | CAP ELECTROLYTIC 0.22μF/50V/M/H7 or | CA1JR22ENE09 |
| | ELECTROLYTIC CAP. 0.22μF/50V M H7 | CE1JMASSLR22 |
| C1026 | CHIP CERAMIC CAP.(1608) CH J 22pF/50V or | CHD1JJ3CH220 |
| | CHIP CERAMIC CAP.(1608) NP0/J/22pF/50V | CHD2200YF020 |
| C1027 | CAP CERAMIC (AX) 0.1μF/50V/F/Z or | CA1J104TU062 |
| | CERAMIC CAP.(AX) F Z 0.1μF/50V | CCA1JZTFZ104 |
| | **CONNECTOR** | |
| CN1001 | ANGLE PIN HEADER 9P IMSA-6029B-1-09Z003- | JTED009ER045 |
| | **DIODES** | |
| D1002 | DIODE SWITCHING 1N4148-F0021 or | NDTZ01N4148F |
| | DIODE SWITCHING HSS4148TE-E or | QDTZ0HSS4148 |
| | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| | **IC** | |
| IC1001 | IC AUDIO PROCESSOR MSP3417G-QG-B8-V3 | NSZBA0SP3005 |
| | **COILS** | |
| L1001 | INDUCTOR 10μH-K-26T | LLAXKATTU100 |
| L1002 | WIRE CP STP-S-0.60 or | XZ40F0REN002 |
| | WIRE CP CP0.56 | XZ40F0XRC001 |
| L1003 | INDUCTOR 18μH-K-26T | LLAXKATTU180 |
| L1004 | INDUCTOR 10μH-K-26T | LLAXKATTU100 |
| | **RESISTORS** | |
| R1001 | CHIP RES. 1/10W J 1k Ω or | RRXAJR5Z0102 |
| | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102YF002 |
| R1004 | CHIP RES. 1/10W J 120k Ω or | RRXAJR5Z0124 |
| | RES CHIP 1608 1/10W J 120k Ω | RRXA124YF002 |
| R1005 | CHIP RES.(1608) 1/10W 0 Ω or | RRXAZR5Z0000 |
| | RES CHIP 1608 1/10W J 0 Ω | RRXA000YF002 |
| R1006 | CHIP RES.(1608) 1/10W 0 Ω or | RRXAZR5Z0000 |
| | RES CHIP 1608 1/10W J 0 Ω | RRXA000YF002 |
| | **MISCELLANEOUS** | |
| X1001 | XTAL 18.432MHz or | FXD186LLN001 |
| | QUARTZ CRYSTAL 18.432MHz 910A018432-1035200 | FHX186XGE001 |

## JACK CBA

| Ref. No. | Description | Part No. |
|---|---|---|
| | JACK CBA (MCV-C)<br>Consists of the following: | --------- |
| | **CAPACITORS** | |
| C101 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C102 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C103 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C104 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C105 | CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V or | CHD1EZ30F104 |
| | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V | CHD1JZ30F104 |
| C107 | CAP ELECTROLYTIC 1μF/50V/M/H7 or | CA1J1R0ENE10 |
| | ELECTROLYTIC CAP. 1μF/50V M H7 | CE1JMAVSL1R0 |
| C108 | CHIP CERAMIC CAP. B K 1000pF/50V or | CHD1JKB0B102 |
| | CHIP CERAMIC CAP.(1608) B K 1000pF/50V or | CHD1JK30B102 |

| Ref. No. | Description | Part No. |
|---|---|---|
| | CHIP CERAMIC CAP.(1608) X7R/K/1000pF/50V | CHD1020YF069 |
| C109 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C110 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C111 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C112 | CHIP CERAMIC CAP.(1608) CH J 470pF/50V or | CHD1JJ3CH471 |
| | CAP CHIP 1608 CH J 470pF/50V | CHD4710YF020 |
| C113 | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JKB0B222 |
| | CHIP CERAMIC CAP. B K 2200pF/50V or | CHD1JK30B222 |
| | CHIP CERAMIC CAP.(1608) X7R/K/2200pF/50V | CHD2220YF069 |
| C115 | CAP ELECTROLYTIC 100µF/16V/M/H7 or | CA1C101ENE10 |
| | ELECTROLYTIC CAP. 100µF/16V M H7 | CE1CMAVSL101 |
| C116 | CAP ELECTROLYTIC 470µF/6.3V/M or | CA0K471ENE12 |
| | ELECTROLYTIC CAP. 470µF/6.3V M or | CE0KMASDL471 |
| | ELECTROLYTIC CAP. 470µF/6.3V/M/105 | CEA471ENW076 |
| C117 | CAP ELECTROLYTIC 470µF/6.3V/M or | CA0K471ENE12 |
| | ELECTROLYTIC CAP. 470µF/6.3V M or | CE0KMASDL471 |
| | ELECTROLYTIC CAP. 470µF/6.3V/M/105 | CEA471ENW076 |
| | **DIODES** | |
| D101 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D102 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D103 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D104 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| D105 | DIODE ZENER 11BSA-T26 or | NDTA011BST26 |
| | DIODE ZENER HZS11NB1TE-EQ or | QDTAHZS11NB1 |
| | DIODE ZENER DO-34 MTZJ11A or | NDTA00MTZJ11 |
| | ZENER DIODE MTZJT-7711A | QDTA00MTZJ11 |
| | **COILS** | |
| L101 | BEAD CORE B16 RH 3.5X10X1.3 | XL03010XM001 |
| L102 | BEAD CORE B16 RH 3.5X10X1.3 | XL03010XM001 |
| | **TRANSISTORS** | |
| Q101 | PNP TRANSISTOR SMD MMBTSA1504G or | NQ1GBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFG or | NQ1G2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SG or | NQXG2SA1980S |
| | CHIP TRANSISTOR KTA1504S-GR-RTK/P | NQ14KTA1504S |
| Q102 | PNP TRANSISTOR SMD MMBTSA1504G or | NQ1GBTSA1504 |
| | PNP TRANSISTOR SMD 2SA1980SFG or | NQ1G2SA1980S |
| | PNP TRANSISTOR SMD 2SA1980SG or | NQXG2SA1980S |
| | CHIP TRANSISTOR KTA1504S-GR-RTK/P | NQ14KTA1504S |
| | **RESISTORS** | |
| R101 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R103 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R104 | CARBON RES. 1/4W J 4.7k Ω or | RCX4JATZ0472 |
| | RES CARBON FILM 1/4W J 4.7k Ω or | RCJ472PAK001 |
| | RES CARBON FILM T 1/4W J 4.7k Ω | RCX4472T1001 |
| R106 | CARBON RES. 1/4W J 4.7k Ω or | RCX4JATZ0472 |
| | RES CARBON FILM 1/4W J 4.7k Ω or | RCJ472PAK001 |
| | RES CARBON FILM T 1/4W J 4.7k Ω | RCX4472T1001 |
| R108 | CARBON RES. 1/4W J 68 Ω or | RCX4JATZ0680 |
| | RES CARBON FILM 1/4W J 68 Ω or | RCJ680PAK001 |
| | RES CARBON FILM T 1/4W J 68 Ω | RCX4680T1001 |
| R109 | CHIP RES. 1/10W J 75 Ω or | RRXAJR5Z0750 |
| | RES CHIP 1608 1/10W J 75 Ω | RRXA750YF002 |
| R110 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R112 | CARBON RES. 1/4W J 820 Ω or | RCX4JATZ0821 |
| | RES CARBON FILM 1/4W J 820 Ω or | RCJ821PAK001 |
| | RES CARBON FILM T 1/4W J 820 Ω | RCX4821T1001 |
| R113 | CARBON RES. 1/4W J 4.7k Ω or | RCX4JATZ0472 |
| | RES CARBON FILM 1/4W J 4.7k Ω or | RCJ472PAK001 |
| | RES CARBON FILM T 1/4W J 4.7k Ω | RCX4472T1001 |
| R115 | CARBON RES. 1/4W J 4.7k Ω or | RCX4JATZ0472 |
| | RES CARBON FILM 1/4W J 4.7k Ω or | RCJ472PAK001 |
| | RES CARBON FILM T 1/4W J 4.7k Ω | RCX4472T1001 |
| R116 | CARBON RES. 1/4W J 15k Ω or | RCX4JATZ0153 |
| | RES CARBON FILM 1/4W J 15k Ω or | RCJ153PAK001 |
| | RES CARBON FILM T 1/4W J 15k Ω | RCX4153T1001 |
| R117 | CHIP RES. 1/10W J 10k Ω or | RRXAJR5Z0103 |
| | RES CHIP 1608 1/10W J 10k Ω | RRXA103YF002 |
| R118 | CARBON RES. 1/4W J 68 Ω or | RCX4JATZ0680 |
| | RES CARBON FILM 1/4W J 68 Ω or | RCJ680PAK001 |
| | RES CARBON FILM T 1/4W J 68 Ω | RCX4680T1001 |
| R119 | CHIP RES. 1/10W J 75 Ω or | RRXAJR5Z0750 |
| | RES CHIP 1608 1/10W J 75 Ω | RRXA750YF002 |
| R120 | CARBON RES. 1/4W J 680 Ω or | RCX4JATZ0681 |
| | RES CARBON FILM 1/4W J 680 Ω or | RCJ681PAK001 |
| | RES CARBON FILM T 1/4W J 680 Ω | RCX4681T1001 |
| R123 | CHIP RES. 1/10W J 220 Ω or | RRXAJR5Z0221 |
| | RES CHIP 1608 1/10W J 220 Ω | RRXA221YF002 |
| R125 | CARBON RES. 1/4W J 680 Ω or | RCX4JATZ0681 |
| | RES CARBON FILM 1/4W J 680 Ω or | RCJ681PAK001 |
| | RES CARBON FILM T 1/4W J 680 Ω | RCX4681T1001 |
| R126 | CHIP RES. 1/10W J 220 Ω or | RRXAJR5Z0221 |
| | RES CHIP 1608 1/10W J 220 Ω | RRXA221YF002 |
| R127 | CHIP RES.(1608) 1/10W 0 Ω or | RRXAZR5Z0000 |
| | RES CHIP 1608 1/10W J 0 Ω | RRXA000YF002 |
| | **MISCELLANEOUS** | |
| 2L022 | SCREW P-TIGHT M3*10 WASHERHEAD+ | GCJP3100 |
| A5 | JACK BOARD(U27-21P BLACK) HM214BD | 1VM425660 |
| JK101 | RGB CONNECTOR MRC-021V-01 ABS(B110 | JXGL210LY007 |
| JK102 | RGB CONNECTOR MRC-021V-01 ABS(B110 | JXGL210LY007 |

# SENSOR CBA

| Ref. No. | Description | Part No. |
|---|---|---|
| | SENSOR CBA<br>Consists of the following: | 1VSA28864 |
| | **TRANSISTORS** | |
| Q504 | PHOTO TRANSISTOR PT204-6B-12 or | NPWZT2046B12 |
| | PHOTO TRANSISTOR MID-32A22F | NPWZ1D32A22F |
| Q505 | PHOTO TRANSISTOR PT204-6B-12 or | NPWZT2046B12 |
| | PHOTO TRANSISTOR MID-32A22F | NPWZ1D32A22F |

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